# TAPES, MEMBRANES, SEALANTS AND FIRE PROTECTION

WATERPROOF, AIR AND WIND TIGHTNESS

> FLUID MEMBRANE

> > 1



Solutions for Building Technology

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	PEAK EASY	
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## **RESEARCH & DEVELOPMENT**

## LABORATORY TESTING AND EXPERIMENTAL CAMPAIGNS

#### ROTHOBLAAS LABORATORY

Our innovative laboratory is located within our headquarters and it allows us to test our products.

We have all the necessary equipment to subject our solutions to the most extreme conditions: high-temperature test ovens, UV-accelerated ageing test chambers, low-temperature test chambers, impermeability testing equipment, tensile testing machine, tensile abrasimeters and outdoor spaces for weathering.





With the Martindale test, we analyse the wear and tear resistance of our membranes. With ovens and low-temperature chambers we test the behaviour of our products when exposed to extreme temperatures.





Exposure to outdoor environments makes it possible to test weathering resistance, evaluating the combined effect of UV rays, humidity, heat and rain.





Experimental and standardised tests to verify the resistance to water penetration and fire behaviour of our products.





Test campaign on the cohesion and adhesion performance of acrylic adhesive tapes on different substrates.



Performance analysis of polyurethane sealing foams.







Test campaign to evaluate the adhesion, cohesion and elasticity of different glues and sealants.

## **ENVIRONMENTAL RESPONSIBILITY**

OUR CONTRIBUTION TO MITIGATING THE ENVIRONMENTAL IMPACT

For over 30 years, we have been committed to promoting more sustainable building solutions, key to achieving the Sustainable Development Goals (SDGs) adhered to by UN member states in 2015. **Timber** is recognised as the **most eco-sustainable** structural material due to its ability to sequester  $CO_2$  that would otherwise be released into the atmosphere.

Engineered timber (glulam, CLT, LVL, etc.) has revolutionised timber construction, allowing the development of products that improve building performance, enhance comfort and the quality of life. Effective sealing and waterproofing are thus essential in increasing the energy efficiency of timber, hybrid and traditional constructions.



## ENERGY EFFICIENCY IN CONSTRUCTION

Energy efficiency in construction must go hand in hand with living comfort, as demonstrated by recent advancements in the timber market, all aimed at achieving this balance. Rothoblaas invests in sustainable architecture through the research and development of new solutions, providing high-quality products for ambitious projects and offering specialised technical consulting services that include:

Theoretical and practical analysis of construction systems that ensure the efficiency of the building envelope and excellent performance in all climate conditions (air, wind and water tightness).



(11)

Clear and simple identification of the products and characteristics that guarantee energy efficiency.



Building renovation solutions.

Rothoblaas' company buildings and facilities are likewise designed as sustainable and energy self-sufficient structures.





## INCREASINGLY EFFICIENT PRODUCTS

The Rothoblaas Research & Development team is dedicated to continually developing new solutions and enhancing product performance. These are our sustainability initiatives:



#### **PRODUCTION OPTIMISATION:** • we reduce raw material consumption in our products



e.g. tapes without release liner



#### USE OF SUSTAINABLE RAW MATERIALS:

· continuous development of alternative materials with the aim of reducing CO<sub>2</sub> emissions



e.g. use of kraft paper



#### IMPROVED PRODUCT PERFORMANCE AND **PRODUCTION:**

• we leverage each product's performance to maximise its use



e.g. membranes with integrated tape



#### MATERIALS DURABILITY:

• we choose durable materials to ensure lasting, high-quality performance



e.g. monolithic membranes



#### EASE OF DISASSEMBLY AND RECYCLING:

• we evaluate and assess the feasibility of disassembly and the potential for our products to be reused



e.g. RB warehouse façade



#### WE LIMIT THE PRESENCE OF CHEMICALS:

• we offer water-based alternatives and avoid solvent-based products.



e.g. liquid membranes

### LOGISTICS OPTIMISATION

#### WIDESPREAD PRESENCE

Our logistics network is constantly expanding. Our ambitious goal is to produce and store our products closer to our distribution points.

### CONSCIOUS USE OF RESOURCES

#### PACKAGING REDUCTION

To address transport, handling and traceability needs, many products require packaging that we strive to minimise, using only the essential materials necessary for handling. Where possible, we use easily recyclable and readily degradable materials. In other cases, we minimise the amount of material used in packaging, designed to ensure the product's integrity during handling and storage.

#### TRANSPARENCY AND DOCUMENTARY CLARITY

The transparent provision of information (e.g. complete documentation downloadable online, clear and comprehensive catalogues, etc.) enables conscious and targeted use of our products, avoiding waste.

#### ENVIRONMENTAL AND ENERGY CERTIFICATIONS

We promote the conscious use of our products by adhering to sustainability protocols and providing information about products' environmental performance through Ecolabel, recognised and qualified databases (Sundahus, BVB, Nordic Ecolabel), environmental declarations (EPDs) and emission classification systems (EMICODE®, French VOC) see page 12.

To ensure the energy efficiency of constructions, we have obtained Passivhouse certification for several of our products.

#### DISPOSAL AND RECYCLABILITY

We promote the circular economy, which in timber construction translates into the concept of Design for Disassembly, that is, the possibility to disassemble and reuse products. We have also introduced a Disposal Code (EWC Codes) for the proper identification and disposal of products when the structure is disassembled.

#### **CREATING MULTIPLIERS**

Through our Rothoschool, we teach customers how to use our products in the most efficient way. The key features of our product ranges are described on our website and social media channels. At the same time, our consultants also offer their expertise to anyone seeking further information.















# **QUALITY BUILDING**

Modern construction is increasingly based on the use of quality materials and state-of-the-art building techniques that reduce the energy impact of the building without compromising housing comfort and aesthetics.

### REDUCING ENERGY CONSUMPTION

Numerous studies show that energy consumption in buildings causes over 40% of global CO<sub>2</sub> emissions. Greater attention paid to a more conscious use of energy during design is essential for both the environment and for economic savings.



## CERTIFICATIONS AND COMPLIANCE

## CERTIFICATIONS

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#### **CE MARKING**

The CE marking indicates that a product has been evaluated and meets the mandatory health, safety and environmental protection standards required by law. It serves to inform users and relevant authorities of the product's compliance with these essential regulations. It is a mark allowing the product's introduction and free circulation within the European Union.



#### PASSIVE HOUSE

The Passive House Institute, an independent research organisation that has set an internationally recognised standard for energy efficiency in construction, submits tapes and membranes to extremely rigorous tests to prove their effectiveness in terms of performance. Tests are carried out under boundary conditions that reflect reality as closely as possible in order to ensure that the product retains its functionality once installed. In the case of membranes, in particular, overlaps with other adjacent materials are observed.



#### SINTEF

The Norwegian SINTEF certification is awarded to waterproofing solutions that successfully pass certain installation and ageing tests: effectiveness, durability and sustainability of the materials are just some of the areas of investigation explored by this independent certification body.



#### CSTB

The French CSTB (Centre Scientifique et Technique du Bâtiment) issues certificates of conformity known as "Avis Technique", which declare that the requirements imposed by French market regulations for building materials are met. With regard to "Écrans de Sous-Toiture", i.e. waterproofing underlays for roofs, the parameters considered are resistance to the passage of water (E), permeability to water vapour (S) and mechanical resistance of the membrane (T).



#### BBA

BBA (British Board of Agrément) is the independent body that certifies that products and systems conform to British standards after subjecting candidate products to rigorous testing. Specifically, our membranes have been evaluated taking into account various parameters: weather tightness, risk of condensation, resistance to wind loads, strength of the membrane itself and its durability.



#### EMICODE

To obtain the EMICODE® seal, our products undergo rigorous testing at accredited institutions. Products are classified into different emission categories based on scientifically determined measurement data. Only those that meet the stringent emission requirements are eligible for the Emicode label. To ensure the highest safety standards, our products are regularly spot-checked by independent, internationally recognised testing institutes.



#### ÉMISSIONS DANS L'AIR INTÉRIEUR

French environmental labelling for VOC (volatile organic compounds) emissions in indoor environments. The products covered are those for construction or wall cladding for indoor use, as well as products involved in their application or incorporation. This label states, in a clear and easy-to-read format, the product's volatile pollutant emission level after 28 days. Our compromise is to offer products with Class A+ certification, reflecting the lowest classified level of indoor emissions of harmful substances.



#### EPD

The EPD (Environmental Product Declaration) provides verified, transparent and comparable information on the environmental impact of individual products. The voluntary declaration is based on a Life Cycle Assessment (LCA) study, which evaluates resource consumption (such as materials, water, energy) and environmental impacts throughout the product's life cycle. Before it can be published, the EPD must be verified by an independent third party.

IRE		<b>REACTION TO FIRE</b> Product classification based on test results in ac- cordance with EN 13501-1, ASTM E84 and AS 1530.2		**** **** NAIL SEALING ÖNDRM B3647	NAIL SEALING ÖNORM B3647 and EAD 030218-00-0402 These standards define test protocols for the use of membranes without nail points, applied as underlay for discontinuous roofing				
Ľ	CLT	FIRE RESISTANCE Fire resistance of linear joints and penetrations tested on timber supports		*** * * * *	<b>CLIMA SEARCH TEST</b> Characterisation tests of <b>CLIMA CONTROL</b> variable diffusion products under real-use conditions				
TION		AIRTIGHTNESS Ceiling, wall and floor		CLIMA SEARCH TEST					
FIELD OF APPLICA		WIND TIGHTNESS Ceiling and wall	TEST	ND EU	<b>ASTM, ULC/CAN, AS/NZ</b> Tests performed in accordance with non-European standards (mainly Australian, Canadian, US and New Zealand)				
la L E	BUTYL BASED	<b>BUTYL BASED</b> Butyl product with excellent elasticity, thermal properties and durability		∂ MEZETOE	<b>MEZeroE</b> As part of the European project MEZeroE, several tests have been conducted to assess the durability and behaviour of tapes and membranes				
MATER BAS	BITUMEN BASED	<b>BITUMEN BASED</b> Bituminous product with good mechanical properties		RADON BARRIER	<b>RADON BARRIER</b> Product tested to act as a protective layer against rising radon.				
ABILITY	LEA	<b>LCA</b> A document outlining resource consumption (materials, water, energy) and environmental impacts throughout the product's life cycle	NATIONAL STANDARDS	D DIN 18542 BG1	<b>DIN 18542</b> Classification of expanding tapes according to the field of application				
SUSTAIN	RECYCLED	<b>RECYCLED CONTENT</b> Product composed of a variable percentage of recycled material		<b>D</b> DIN 4108-7	<b>DIN 4108-7</b> Compliance with the recommendations of German standards for materials designed to achieve airtightness and energy efficiency				

#### NATIONAL TECHNICAL STANDARDS AND CLASSIFICATIONS

#### А

Önorm B 3667 "Abdichtungsbahnen - Kunststoff-Dampfsperrbahnen - Nationale Umsetzung der ÖNORM EN 13984" DB:Dampfbremse, DS: Dampfsperre, DS dd: Dampfsperre dampfdicht

Önorm B 3661 "Abdichtungsbahnen - Unterdeck- und Unterspannbahnen für Dachdeckungen - Nationale Umsetzung der ÖNORM EN 13859-1" Unterdeckbahnen: UD Typ I, UD Typ II,

Unterspannbahnen: US

Elastomerbitumenbahnen als Unterdeck- und Unterspannbahnen: E-do nsk

#### AUS

AS/NZS 4200.1 "Pliable building membranes and underlays" Classification of vapour permeance: Vapour Barrier: Class 1 and Class 2 Vapour Permeable: Class 3 and Class 4

#### D

ZVDH "Deutsches Dachdeckerhandwerk Regelwerk" Dd: Diffusionsdichte Schicht, Ds:Diffusionssperrende Schicht, Dh: Disffusionshemmende Schicht, Db: diffusionsbremsende Schicht, Fv: Feuchtevariabel Unterspannbahnen USB: Klasse A, B Unterdeckbahnen UDB: Klasse A, B, C

#### F

DTU 31.2 "Construction de Maisons et Batiments a Ossature en Bois" pare-vapeur, Barriere souple a la diffusion devapeaur d'eau (Bs dve), pare pluie Écrans souples sous-toiture: caractérise la résistance au passage de l'eau (E1, E2), caractérise la perméance à la vapeur d'eau (Sd1, Sd2, Sd3), caractérise la résistance mécanique (TR1, TR2, TR3)

Ecrans souples pare-pluie: Entraxe du support (Esc, E450, E600), Jeu entre panneaux de revetement exterieur (J0, Jf), Durée d'exposition en phase chantier (C1, C2, C3)

#### СН

SIA 232 "Geneigte Dächer/Toitures inclinées":

- UD EB = UD für erhöhte Beanspruchung
- UD AB = UD für ausserordentliche Beanspruchung
- V.v.o. = Verlegung von oben, Holraum /Fugen auf glatt und rau Untergrund
- V.v.u. = Verlegung von unten, über Kopf

#### LISA

IRC Water Vapor Retarder Classification class 1: vapor impermeable class 2: vapor semi-impermeable class 3: vapor semi-permeable vp: vapor permeable

## **AIR AND WIND TIGHTNESS**

The airtight envelope guarantees that in the winter, warm air and humidity inside the building are not lost to the outside, preventing interstitial condensation. The hermetic nature of the casing offers energy savings and comfortable living.

The wind tightness layer does not replace the airtightness layer, but is designed to protect the insulation layer from wind, rain and weathering, preventing cold air and water from compromising its performance.

#### AIRTIGHTNESS

- ✓ Prevents heat loss in winter
- ✓ Prevents the entry of hot, humid air in summer
- ✓ Optimises the operation of controlled mechanical ventilation
- ✓ Prevents the uncontrolled passage of warm, moist air and the consequent risk of interstitial condensation
- ✔ Avoids discomfort due to draughts
- ✓ Improves acoustic comfort



#### WIND TIGHTNESS

- ✓ Ensures the thermal efficiency of the insulation layer
- ✓ Protects the casing and improves the durability of materials
- ✓ Avoids the formation of currents and convective motions within the casing
- ✓ Serves as a temporary protective layer during construction phases
- ✓ Acts as a temporary protective layer in the event of cracks and dislocation of the roof layer or façade cladding

# CLIMATE AND CONSTRUCTION SYSTEMS

In order to ensure optimal performance of the building envelope, the heat, vapour, air and wind transfer processes that occur within the different components must be studied and controlled. Usually, in cold climates and during the winter months, there are problems with excessive humidity inside buildings due to poor ventilation. The vapour produced in closed rooms penetrates the walls and may condense in contact with cold interstitial layers, beams or cladding. In contrast, in hot and humid climates, the source of vapour that leads to the growth of mould is the outside air. Humidity that is drawn in with the outside air may condense near the interior surfaces, which are cooler with air conditioning.

Rothoblaas, in cooperation with other research institutes, has sponsored several projects aimed at studying the behaviour of building solutions exposed to different climatic conditions through laboratory tests, dynamic simulations and monitoring of real conditions.



## **CLIMATE REGIONS AND SOLUTIONS**

Visit our website www.rothoblaas.com and find the ideal membrane for your climate region and building system. The choice of membranes to be placed inside the building casing is highly dependent on climatic conditions, for example: the vapour flow inside a layers placed in a tropical or torrid climate is the reverse of layers in an arctic or cold climate. With regard to climate regions identified by energy efficiency institutes, the following solutions are recommended. These can vary depending on the building system and the type of technical installations used. Recommended solutions must always be verified by a designer.





#### **OUR KEY PRODUCTS IN THE WUFI® SOFTWARE**

The WUFI® software is used to conduct thermo-hygrometric simulations in a dynamic state. Designers who use it regularly have the option of including top-of-the-range Rothoblaas products in the simulation, obtaining highly accurate and reliable results insofar as calculated on the real product that will be used to build the structure.



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## **TAPES AND SEALANTS**

### CONNECTION TO THE GROUND

<b>START BAND</b> WATERPROOF PROFILE WITH HIGH MECHANICAL RESISTANCE
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START BAND																	
LEVEL BAND																	
GROUND BAND					-												
RADON FLOOR																	
TERMI FLOOR																	
BYTUM BAND																	
PROTECT																	
BYTUM SPRAY																	
BYTUM LIQUID																	
FLUID MEMBRANE																	
CONSTRUCTION SEALING																	
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OUTSIDE GLUE																	
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SERVICE PENETRATIONS							- Ø				•				•		

## **SUPPORTS**



#### excellent adhesion

- 9 guaranteed adhesion with a some precautions (clean surfaces, pre-treated with primer and/or suitable application temperatures)
- poor adhesion

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OUTSIDE GLUE		•	•••••	•	•••••	•••••	•	•	•	
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## CONNECTION TO THE GROUND

The connection to the ground is undoubtedly one of the most delicate points in a timber construction, which is why it is essential to design and implement this construction detail carefully.

The proposed recommendations refer to the different national standards (DIN 68800-2, ÖNORM B 2320 and FLA guide) that promote passive node protection by ensuring the absence of water and moisture at the base of the building.



In order to avoid the contact of the base of the building with wet soil, the timber structure must be installed at a higher level than the water drainage.



In order to prevent the migration of moisture from the concrete to the timber wall, an impermeable barrier must be placed between the concrete and the timber structure.

#### THE LAW OF THE 4 D

#### DEFLECTION

Rain deflection through design choices that tend to minimise the impact of rainwater on the casing (sloping roofs, eaves, flashings, etc.).

#### 

Design a drainage path with the aim of removing water from the building as quickly as possible (draining soil, slope layers, etc.).

#### 

In properly designed buildings, water has a chance to evaporate and moisture can escape from the layers.

#### **D**URABLE MATERIALS

For nodes that do not align with the other 3 principles, consider incorporating durable materials in the design.



It is often one of the coldest points in the building, so it is important to solve the thermal bridge and ensure air tightness.

AVOID INTERSTITIAL CONDENSATION

## **GROUND CONNECTION WITH ALU START**

#### CALCULATION OF THE THERMAL BRIDGE OF THE GROUND NODE WITH ALU START

With this study, several construction details involving the use of ALU START in the ground node were analysed.



In this project, different configurations were studied and it was found that the temperature distribution is not significantly affected by the presence of ALU START.

#### INTERIOR WALL WITH ALU START

CLT (CROSS LAMINATED TIMBER) WITHOUT FOUNDATION AERATION

#### PERIMETER WALL WITH ALU START

CLT (CROSS LAMINATED TIMBER) WITHOUT FOUNDATION AERATION



# START BAND

## MECHANICAL RESISTANCE



COMPATIBILITY DAMP PROOF

#### ELASTICITY

Thanks to its elasticity, it is extremely easy to install even around corners and it is resistant to perforations or mechanical fastening.

#### DURABILITY

support: EPDM-based synthetic rubber

It is compatible with bitumen, it does not degrade and it is UV-resistant. It is resistant to walking wear and cold temperatures.



2 START BAND ADHESIVE

### **TECHNICAL DATA**

Properties	standard	value	USC units
Water vapour transmission (Sd)	EN ISO 12572	40 m	0.09 US Perm
Water vapour resistance factor (µ)	EN 1931	50000	200 MN·s/g
Tensile strength	DIN 53504	≥ 7,0 MPa	-
Elongation	DIN 53504	≥ 300%	-
Resistance to nail tearing	DIN 53504	≥ 10 kN/m	≥ 2.25 lbf/in
Watertightness	EN 1928	compliant	-
Durability:			
- watertightness after artificial ageing	EN 1296/EN 1928	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-30/+75 °C	-22/+167 °F
Application temperature	-	-10/+35 °C	+14/+95 °F

Store the product in a dry, covered location.

Waste classification (2014/955/EU): 17 02 03.

### CODES AND DIMENSIONS

	CODE	В	S	L	В	S	L	
		[mm]	[mm]	[m]	[in]	[mil]	[ft]	
1	START100	100	0,8	20	3.9	32	66	12
	START150	150	0,8	20	5.9	32	66	8
	START200	200	0,8	20	7.9	32	66	5
	START250	250	0,8	20	9.8	32	66	5
2	STARTA120	120	0,8	20	4.7	32	66	12
	STARTA160	160	0,8	20	6.3	32	66	3

### ■ FIELDS OF APPLICATION









### RELATED PRODUCTS



CUTTER page 394



PRIMER SPRAY page 112



HAMMER STAPLER 22 page 396



DOUBLE BAND page 68



#### WIDE RANGE, INCLUDING ADHESIVE

Also available in an adhesive version (STARTA120 and STARTA160), ideal when applied in combination with ALU START, for an infallible connection to the ground.

### SAFETY

It protects walls and foundation walls against rising damp over time, even at extreme temperatures. Also suitable as a general damp-proof course barrier.

## **CONNECT BAND**

# DAMP-PROOF COURSE FOR IRREGULAR SUBSTRATES

### DOUBLE PROTECTION

It protects timber from rising damp and ensures excellent airtightness.

### ADAPTABLE

Adhesive PU foam profiles make it possible to compensate for any irregularities in the foundation.



## TECHNICAL DATA

Properties	standard	value	USC units
Water vapour transmission (Sd)	EN 13984	55 m	0.064 US Perm
Water vapour resistance factor (µ)	EN 1931	approx. 79000	-
Tensile strength	DIN 53504	≥ 6,5 MPa	-
Elongation	DIN 53504	≥ 300%	-
Resistance to tearing	DIN 53504	≥ 25 kN/m <sup>2</sup>	1713.04 lbf/ft
Watertightness (24h)	EN 1928	compliant	-
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-30/+100 °C	-22/+212 °F
Application temperature	-	+5/+35 °C	+41/+95 °F
Storage temperature <sup>(1)</sup>	-	+1/+25 °C	+33.8/+77 °F
Resistance to UV and ozone	-	permanent	-
Resistance to penetration of air	EN 12114	$\alpha < 0,1 \text{ m}^3/(h \cdot m \cdot (daPa)^n)$	-
Thermal conductivity ( $\lambda$ )	-	0,04 W/m·K	0.02 BTU/h·ft·°F
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Solvents	-	no	-
<sup>(1)</sup> Store the product in a dry, covered location.			

Waste classification (2014/955/EU): 17 09 04.

### CODES AND DIMENSIONS

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
CONNECT100	100	0,8	25	3.9	32	82	1
CONNECT250	250	0,8	25	9.8	32	82	1



## WIDE RANGE

Available in two versions for use with different wall thickness values.

### **DURABLE TIGHTNESS**

Extremely thermostable and flexible even at low temperatures. Compatible with bitumen and major building materials.



## **LEVEL BAND** DAMP-PROOF COURSE FOR FOUNDATIONS

#### WATERPROOF

It effectively blocks humidity due to capillary action, while offering excellent resistance to water, air and wind.

#### VERSATILE

Available in three versions: ideal both as a wall barrier and to seal vertical wall - wall joints.



### **TECHNICAL DATA**

Properties	standard	value	USC units
Tensile strength MD/CD	EN 12311-2	≥ 20/≥ 20 N/mm <sup>2</sup>	≥ 2.9/≥ 2.9 lbf/mil <sup>2</sup>
Elongation MD/CD	EN 12311-2	≥ 550/≥ 600 %	-
Resistance to nail tearing MD/CD	EN 12310-1	≥ 120/≥ 120 N/mm <sup>2</sup>	≥ 17.4/≥ 17.4 lbf/mil <sup>2</sup>
Impact resistance	EN 12691	> 500 mm	-
Watertightness after artificial ageing	EN 1296 - EN 1931	compliant	-
Watertightness	EN 1928	compliant	-
Alkaline water vapour resistance	EN 1847 - EN 1931	compliant	-
Flexibility at low temperatures	EN 495-5	-30 °C	-22 °F
Resistance to temperature	-	-40/+90 °C	-40/+194 °F
Storage temperature <sup>(1)</sup>	-	+10/+25 °C	+50/+77 °F

<sup>(1)</sup>Store the product in a dry, covered location.

Waste classification (2014/955/EU): 17 02 03.

### CODES AND DIMENSIONS

CODE	В	s	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
1 LEVEL085	85	0,17	25	3.4	7	82	2
2 LEVEL125	125	0,17	25	4.9	7	82	2
3 LEVEL350	350	0,17	25	13.8	7	82	2

1 0 0 Ø10

2 0 0





## ADAPTABLE

The soft and elastic polyethylene profile allows it to be installed even in complex shapes and angles.

### COST-PERFORMANCE

The choice of materials and optimisation in production results in a solution that offers a good balance between performance and cost.

## RADON, AN UNWANTED HOUSE GUEST



Radon is a noble radioactive gas that occurs in nature. It is highly volatile and tends to rise. It is odourless, colourless and tasteless, making it difficult to perceive if concentrated levels are reached inside homes, and can have dangerous consequences if inhaled.

AN INSIDIOUS GAS

Radon is found throughout the Earth's crust, in varying quantities. Since it is a gas, it moves through openings in the ground, dispersing into the air or water. In the open it never reaches dangerous concentrations but, in closed areas (houses, offices, schools, etc.), it can arrive at values that create serious health risks. Threshold values are defined under international rules, which are then implemented by the relative national bodies.

high low

#### CONCENTRATION

Map provided for illustrative purposes only. Always check for updates.



This gas is found in the subsoil, in rock and in water. In the same way that it moves through the ground, it can pass through construction materials and enter household spaces. Proper airing out of rooms can be useful to fight accumulation, but is often insufficient.



Radon becomes dangerous when it accumulates inside of the home. Today, with increased awareness of low energy consumption buildings (which increase airtightness) and the relative decrease in natural ventilation, the risk of radon is greater than ever.

#### A VERY DANGEROUS SUBSTANCE



As early as 1988, the World Health Organisation (WHO), through the International Agency for Research on Cancer (IARC), listed radon as a human carcinogen. Inhalation of radon gas increases the risk of health damage, in particular the risk of lung cancer.



Radon can be reduced in homes using specific sheaths and materials designed to decrease the permeability of the building's outer structures and foundations. Several solutions are available on the market, including BARRIER ALU NET SD1500, BARRIER ALU NET ADHESIVE 300, GROUND BAND and RADON FLOOR foundation barriers, designed to prevent radon from reaching indoor environments and thus eliminating associated health risks.



## ALU START

The **ALU START** adjustable assembly jigs allow fast and accurate levelling, and exceptional durability.

## TITAN DIVE

The **TITAN DIVE** system revolutionises tolerance management with 22 mm flexibility in each direction and an inclination of  $\pm 13^\circ$ .

## UP LIFT

A new concept of construction whereby the building is installed before the concrete support is poured.

## Timber and concrete unite: possible,manageable and precise

Our ground connection solutions for timber buildings ensure unprecedented **tolerance levels**.

Designing your building's concrete-timber foundations has never been this easy.

Download the industry's most comprehensive catalogue and reduce on-site errors with us:





Solutions for Building Technology



## GROUND BAND

## SELF-ADHESIVE BITUMINOUS MEMBRANE

#### LOW TEMPERATURES

It can be installed at temperatures from -5  $^{\circ}$ C to +30  $^{\circ}$ C thanks to the special elastoplastomeric bituminous mix. It remains flexible down to -30  $^{\circ}$ C.

#### SELF-SEALING AND SELF-ADHESIVE

Practical and fast installation, no flames are required, minimising risks for the wood.

#### SAFETY

The special elastoplastomeric bituminous mix and the cross-laminated high-density polyethylene backing film make the product completely waterproof and resistant to punching shear.



(F

EN 13969 EN 14967 EN 13707

D



#### COMPOSITION

- (1) release liner: silicone coated paper
- (2) glue: black adhesive bituminous compound
- (3) support: high density cross-laminated PE film

### CODES AND DIMENSIONS

CODE	liner	В	s	L	liner	В	S	L	
	[mm]	[mm]	[mm]	[m]	[in]	[in]	[mil]	[ft]	
GROUND200	30/170	200	1,5	20	1.2/6.7	7.9	59	66	2
GROUND500	30/470	500	1,5	20	1.2/18.5	19.7	59	66	1
GROUND1000	500/500	1000	1,5	20	19.7/19.7	39.4	59	66	1



### PROTECTION AGAINST RADON AND METHANE

The product is tested for protection against radon and methane gas, which are harmful to health in the case of high concentrations in indoor environments.

### PRE-CUT LINER

All versions are supplied with the liner pre-cut to facilitate installation in corners or complex locations, but also over large areas to avoid excessive misalignment of the layers.

## TECHNICAL DATA

Properties	standard	value	USC units
Water vapour resistance factor (µ)	EN 1931	approx. 90000	approx. 675 MN·s/g
Tensile strength MD/CD	EN 12311-1	215/220 N/50 mm	-
Elongation MD/CD	EN 12311-1	310/240%	-
Impact resistance Met.A/Met.B	EN 12691	500/1000 mm	19.69/39.37 in
Static load resistance Met.A/Met.B	EN 12730	10/15 kg	350/530 oz
Resistance to tearing MD/CD	EN 12310-1	135/135 N	30.35/30.35 lbf
Watertightness	EN 1928	compliant	-
Watertightness after ageing Met.A	EN 1296/EN 1928	compliant	-
Joint separation resistance MD/CD	EN 12316-1	100 N/50 mm	11.42 lbf/in
Maximum tensile force MD/CD	EN 12317-1	350/350 N/50 mm	40/40 lbf/in
Water absorption	ASTM D 570	0,09%	-
Resistance to hydrostatic pressure (24 h)	EN 1928	> 6 bar	-
Reaction to fire	EN 13501-1	class E	-
Initial Tack +23/+5 °C	ASTM D 2979	7/5 N	1.6/1.1 lbf
Adhesion on timber	ASTM D 1000	12,5 N/10 mm	7.1 lbf/in
Adhesion on concrete at 23 °C	ASTM D 1000	3 N/mm	17.1 lbf/in
Flexibility at low temperatures	EN 1109	-30 °C	-22 °F
Resistance to temperature	-	-40/+80 °C	-40/+176 °F
Application temperature <sup>(1)</sup>	-	-5/+30 °C	+23/+86 °F
Storage temperature <sup>(2)</sup>	-	+5/+40 °C	+41/+104 °F
Exposure to weather	-	3 weeks	-
Radon permeability	SP Swedish Nat. Testing & Research Institute	5,7·10 <sup>-12</sup> m <sup>2</sup> /s	-
Methane permeability	CSI test method	< 5 cc/m <sup>2</sup> ·24·atm	-
VOC	ISO 16000	8 µg/m <sup>3</sup>	-
Solvents	-	no	-

<sup>(1)</sup> On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed. <sup>(2)</sup>Store the product in a cool, dry place for no more than 12 months. The rolls must be transported and stored in a vertical position. It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

Waste classification (2014/955/EU): 08 04 10.

#### DETERMINATION OF THE RADON DIFFUSION COEFFICIENT

Radon is an invisible, odourless gas found in soil that can seep through building foundations, accumulating indoors and posing a health risk to occupants.

GROUND BAND has been tested by SP Swedish Nat. Testing & Research Institute as an effective radon gas barrier that ensures a safe and healthy environment.

Rn permeability	5,7·10 <sup>-12</sup> (m <sup>2</sup> /s)	Rŋ
Rn transmittance	3,8·10 <sup>-9</sup> (m/s)	RADON BARRIER



#### RELATED PRODUCTS



BYTUM PRIMER page 53



BLACK BAND page 144





PRIMER SPRAY page 112

HAMMER STAPLER 47 page 396

#### RECOMMENDATIONS FOR INSTALLATION

WATERPROOFING CLT WALL ON CONCRETE KERB















- 1 HERON, HERON XL, HERON DGT, COSMOS, CHAMELEON, POWDER
- **3a** BYTUM LIQUID, BYTUM SPRAY, BYTUM PRIMER

5 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES





8 ROLLER, HOT GUN

WATERPROOFING AND RADON PROTECTION OF FOUNDATIONS













6 ROLLER

## RADON FLOOR

WATERPROOF RADON GAS BARRIER FOR FOUNDATIONS

## 

- (1) top layer: low density PE film
- (2) bottom layer: low density PE film





## TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	240 g/m <sup>2</sup>	0.79 oz/ft <sup>2</sup>
Thickness	EN 1849-1	0,3 mm	12 mil
Water vapour transmission (Sd)	EN 1931	120 m	0.029 US Perm
Water vapour resistance factor ( $\mu$ )	-	approx. 400000	approx. 600 MN·s/g
Tensile strength MD/CD	EN 12311-1	> 100/80 N/50 mm	11.4/9.1 lbf/in
Elongation MD/CD	EN 12311-1	> 350/350 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 60/60 N	> 14/14 lbf
Joint resistance MD/CD	EN 12317-2	> 135/140 N/50 mm	> 15.4/16.0 lbf/in
Impact resistance	EN 12691	< 200 mm	< 7.87 in
Resistance to static load	-	200 N	44.96 lbf
Watertightness	EN 1928	compliant	-
Durability:			
- watertightness after artificial ageing	EN 1296/EN 1928	compliant	-
- impermeability in the presence of chemical agents	EN 1847/EN 1928	compliant	-
Reaction to fire	EN 13501-1	class F	-
Resistance to temperature	-	-40/80 °C	-40/176 °F
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Thermal conductivity $(\lambda)$	-	0,4 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 800 kg/m <sup>3</sup>	approx. 0.46 oz/in <sup>3</sup>
Radon permeability	EN ISO/IEC 17025	< 6,2x10 <sup>-12</sup> m <sup>2</sup> /s	-

Waste classification (2014/955/EU): 17 02 03.

## CODES AND DIMENSIONS

CODE	н	L	А	Н	L	А	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
RADON240	4	25	100	13	82	1076	21
TAPES AND SEALANTS | **RADON FLOOR** | 37

- 5 GROUND BAND
- 4 MARLIN, CUTTER

4

- **3b** SUPRA BAND, BUTYL BAND, OUTSIDE GLUE ROLLER

- 1-2 SUPRA BAND, BUTYL BAND











## **TERMI FLOOR**

## WATERPROOF ANTI-TERMITE MEMBRANE FOR FOUNDATIONS

## 

(1) single layer: low density PE film

TERMI BARRIER	3,0 m



## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	150 g/m <sup>2</sup>	0.49 oz/ft <sup>2</sup>
Thickness	EN 1849-1	0,15 mm	6 mil
Tensile strength MD/CD	EN 12311-1	10/10 N/10 mm	5.7/5.7 lbf/in
Elongation MD/CD	EN 12311-1	200/50 %	-
Resistance to nail tearing MD/CD	EN 12310-1	40/40 N	9/9 lbf
Resistance to static load	-	5 N	1.12 lbf
Impact resistance	EN 12691	200 mm	7.87 in
Watertightness	EN 1928	compliant	-
Watertightness:			
- in the presence of alkalis	EN 1847/EN 1928	compliant	-
- after artificial ageing	EN 1296/EN 1928	compliant	-
Reaction to fire	EN 13501-1	class F	-
Resistance to temperature	-	-40/80 °C	-40/176 °F
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Thermal conductivity $(\lambda)$	-	0,4 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 1000 kg/m <sup>3</sup>	approx. 62 lbm/ft <sup>3</sup>
Action against termites	FCBA (401/10/222F/d)	> 20 years	-

Waste classification (2014/955/EU): 17 02 04.

## **CODES AND DIMENSIONS**

CODE	roll	Н	L	А	Н	L	Α	
	[m]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TERMI150	1,0 x 12,5	3	25	75	10	82	807	48

## RECOMMENDATIONS FOR INSTALLATION

















- **3a** SUPRA BAND, BUTYL BAND, OUTSIDE GLUE
- **3b** ROTHOBLAAS TAPE
- 4a OUTSIDE GLUE, SUPRA BAND, BUTYL BAND
- 4a FLY, FLY SOFT
- 4b PRIMER, PRIMER SPRAY ROLLER

## **TERMI FLOOR SOIL**

## WATERPROOF ANTI-TERMITE MEMBRANE FOR FOUNDATIONS

## 

TERMI

(1) single layer: low density PE film

REPELLENT	
-----------	--



#### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	-	150 g/m <sup>2</sup>	0.49 oz/ft <sup>2</sup>
Thickness	-	0,15 mm	6 mil
Tensile strength MD/CD	-	20/19 mPa	2901/2756 psi
Elongation MD/CD	-	550/650 %	-
Resistance to tearing MD/CD	-	3800/5900 g/mm	-
Yield strength MD/CD	-	15/13 Mpa	-
Punching (Dart test)	-	270 g	-
Watertightness (60 kPa)	EN 1928	compliant	-
Reaction to fire	EN 13501-1	class F	-
Resistance to temperature	-	-40/80 °C	-40/176 °F
Density	-	approx. 950 kg/m <sup>3</sup>	approx. 59 lbm/ft <sup>3</sup>
Action against termites	-	10 years	-

Efficacy testing against ground termites in different geographical areas including Europe, North America, South Africa and Asia. Contact our technical department for further information.

Waste classification (2014/955/EU): 17 02 04.

## **CODES AND DIMENSIONS**

CODE	roll	Н	L	А	Н	L	Α	
	[m]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TERMIS150	1,5 x 12,5	6	25	150	20	82	1615	46



## Maximum safety, minimum visual impact

**GUARD W**, which can be folded down when not in use, preserves the building's aesthetic and the efficiency of photovoltaic panels installed on the roof.

Designed to seamlessly integrate with modern façades and any type of roof, **GUARD railings** are versatile and sturdy safety devices.





Explore the full range and accessories on our website:





rothoblaas.com/safe

Solutions for Safety

## **BUTYL PRODUCTS**

#### WHAT THEY ARE MADE OF AND WHERE THEY COME FROM

Butyl products are made from compounds of butyl rubber, a high-quality synthetic material with excellent elastic, thermal and durability properties.

The butyl product is a synthetic material obtained through a polymerisation reaction of molecules (monomers) from oil refining.

Rothoblaas offers: BUTYL BAND, SUPRA BAND, PROTECT, BLACK BAND, TERRA BAND UV, ALU BUTYL BAND , NAIL BAND, MANICA PLASTER, OUTSIDE GLUE, ALU FLASH CONNECT, SOFT FLASH CONNECT, MANICA ROLL.

**REFINING TOWER** 





MONOMER

MONOMERS + CHEMICAL REACTION



Polymerisation is a chemical reaction which, starting from small simple molecules (monomers), produces a much longer so-called "polymer chain" consisting of identical molecules repeated in sequence. In this way it is possible to create materials with the desired properties.

#### PROPERTIES

Butyl is a material specially synthesised to achieve specific properties. It is particularly suitable for many applications in the construction industry, where adhesion, ageing resistance, stability at high temperatures and flexibility at low temperatures are key requirements. For these reasons, a butyl product is preferable to a bituminous product.



**FLEXIBILITY** the chemical structure of these products makes them very flexible



HARDNESS butyl products are specially designed for the desired application and do not require the addition of mineral fillers



**RESISTANCE TO UV** this type of product is scarcely affected by ultraviolet radiation



AGEING butyl compounds are very stable over time



**ELASTICITY** Butyl compounds are intrinsically elastic



THERMAL STABILITY butyl products are stable over a very widetemperature range: -40/+100°C

## **BITUMINOUS PRODUCTS**

#### WHAT THEY ARE MADE OF AND WHERE THEY COME FROM

Bitumen is a mixture of different substances, which is particularly suitable for combining with other materials to improve their mechanical and thermal properties.

Bitumen itself is a solid black mass which, in the case of tapes and membranes, is mixed with inorganic fillers (calcium carbonate and silica) and polymers to obtain a mix, possibly also adhesive, with the desired properties. Bitumen has two origins: a natural and an artificial one. What is used industrially is artificial bitumen.

Rothoblaas offers: BYTUM 400, BYTUM 750, BYTUM 1100, BYTUM 1500, BYTUM 2000, BYTUM BASE 2500, BYTUM SLATE 3500, SHINGLE, GROUND BAND, BYTUM BAND, BYTUM LIQ-UID, BYTUM SPRAY.

#### **REFINING TOWER**



NATURAL ASPHALT LAKE





BITUMEN + OILS + POLYMERS + MINERAL FILLERS



BITUMINOUS COMPOUND Bituminous products are a mixture of different ingredients. Although bitumen is the major component, the final properties are more similar to those of the polymer (present in smaller quantities in the bituminous compound). A bit like mayonnaise, which is mostly made of oil but whose consistency is more like that of eggs, which are present in a smaller proportion. This is possible thanks to a special production process.

### PROPERTIES

The properties of bituminous products depend on the presence of each "ingredient". The complex composition of bitumen influences its stability over time.



FLEXIBILITY bitumen is very flexible; however, the presence of the mineral filler reduces its flexibility



HARDNESS the hardness of the product is mainly due to the mineral fillers



UV RESISTANCE the mineral part of the mixture protects it from ultraviolet radiation. Stone chips can cover the surface, protecting it



AGEING bituminous products are more prone to ageing, which compromises their properties, and over time the oils in the bitumen tend to migrate



**ELASTICITY** bitumen is a material with poor mechanical properties. For this reason it is modified by adding polymers such as SBS (styrene-butadiene-styrene)



THERMAL STABILITY bitumen appears as a solid over a very narrow temperature range. The thermal stability range may vary depending on the ingredients added

## **BYTUM BAND**

## SELF-ADHESIVE BITUMINOUS BAND, CAN BE PLASTERED



### CAN BE PLASTERED

Polypropylene means the fabric can be plastered, offering greater versatility.

### **COST - PERFORMANCE**

The bituminous mixture guarantees good adhesion, even on concrete.



## 

- (1)release liner: silicone coated paper
- (2) glue: black adhesive bituminous compound
- (3) support: non-woven PP fabric

## TECHNICAL DATA

Properties	standard	value	USC units
Tensile strength MD/CD	EN 12311-1	140/105 N/50 mm	16/12 lbf/in
Elongation MD/CD	EN 12311-1	100/100 %	-
Initial Tack +23/+5 °C	ASTM D 2979	7/1 N	1.6/0.2 lbf
Adhesion strength on concrete	ASTM D 1000	2,9 N/mm	16.56 lbf/in
Adhesion strength of class C2E cementitious glue on TNT	EN 12004/EN 1348	0,9 N/mm <sup>2</sup>	130.53 lbf/in <sup>2</sup>
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-30/+80 °C	-22/+176 °F
Application temperature <sup>(1)</sup>	-	+5/+40 °C	+41/+104 °F
Storage temperature <sup>(2)</sup>	-	+5/+40 °C	+41/+104 °F
Exposure to weather	-	2 weeks	-
VOC	ISO 16000	8 µg/m³	-

<sup>(1)</sup>On dry support and at a temperature > 5 °C. The absence of condensation or frost on the surface must be guaranteed. <sup>(2)</sup>Store the product in a cool, dry place for no more than 12 months. It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

Waste classification (2014/955/EU): 08 04 10.

### CODES AND DIMENSIONS

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
BYTBAND240	240	1	15	9.5	39	49	2
BYTBAND370	370	1	15	14.6	39	49	1

## FIELDS OF APPLICATION







## RELATED PRODUCTS



BYTUM LIQUID page 50



BYTUM SPRAY page 48



HAMMER STAPLER 22 page 396



BYTUM PRIMER page 53



### VERY LOW EMISSIONS

Thanks to the special formulation of the bituminous compound, it guarantees health safety with regard to emissions.

## SAFETY

It protects walls and foundation walls against rising damp over time. Also suitable as a general damp-proof course barrier or window/door node waterproofing product.

# SELF-ADHESIVE BUTYL BAND, CAN BE

## PLASTERED

### BUTYL MIX

The special mix guarantees excellent adhesion and deformation capacities, compensating for the natural movement of the timber.

### LOW TEMPERATURES

The butyl guarantees excellent adhesion to the supports also under difficult environmental conditions.



CAN BE PLASTERED

袾

LOW TEMPERATURE

## COMPOSITION

- (1) release liner: PP film
- (2) glue: grey adhesive butyl compound
- (**3**) support: non-woven PP fabric

### **TECHNICAL DATA**

Properties	standard	value	USC units
Water vapour resistance factor (µ)	EN 1931	approx. 26176	approx. 130 MN·s/g
Tensile strength MD/CD	EN 12311-1	115/100 N/50 mm	13.1/11.4 lbf/in
Elongation MD/CD	EN 12311-1	100/100 %	-
Resistance to tearing MD/CD	EN 12310	≥ 130/≥ 125 N	≥ 29.23/≥ 28.10 lbf
Vertical sliding	ISO 7390	0 mm	-
Watertightness	EN 1928	compliant	-
Reaction to fire	EN 13501-1	class E	-
Fire resistance rating on plain CLT joint (120 mm), 8 mm joint + MANICA PLASTER-PROTECT <sup>(*)</sup>	EN 1363-4	E190	
Adhesion strength at 180°	ASTM D 1000	22 N/10 mm	12.6 lbf/in
Joint separation resistance MD/CD	EN 12316-1	≥ 20 N/50 mm	≥ 2.28 lbf/in
Maximum tensile force MD/CD	EN 12317-1	≥ 100/≥ 75 N/50 mm	≥ 11.42/≥ 8.57 lbf/in
Initial Tack +23/+5 °C	ASTM D 2979	7,2/13 N	1.6/2.9 lbf
Adhesion of class C2E cementitious glue on TNT	EN 12004/EN 1348	0,9 N/mm <sup>2</sup>	130.53 lbf/in <sup>2</sup>
Resistance to temperature	-	-40/+120 °C	-40/+248 °F
Application temperature <sup>(1)</sup>	-	+0/+45 °C	+32/113 °F
Storage temperature <sup>(2)</sup>	-	+0/+50 °C	+32/+122 °F
Exposure to weather	-	4 weeks	-
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-

(1) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

(2) Store the product in a cool, dry place for no more than 12 months. It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.
(\*) For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 10.





BUTYL

-

DURABILITY

## CODES AND DIMENSIONS

CODE	liner	В	s	L	liner	В	S	L	
	[mm]	[mm]	[mm]	[m]	[in]	[in]	[mil]	[ft]	
MANPLA2080	20/80	100	1	10	0.8/3.2	3.9	39	33	6
MANPLA20180	20/180	200	1	10	0.8/7.1	7.9	39	33	2
PROTECT330	-	330	1	10	-	13.0	39	33	2
PROTECT500	-	500	1	10	-	19.7	39	33	1

## FIELDS OF APPLICATION







## FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

	Cotton swab	> 06 minutos	
TIGHTNESS (E)	Persistent flame > 96 minutes		
INSULATION (I)	Time	> 96 minutes	EI 90





## ADHESION AND DURABILITY

The special butyl mix ensures high adhesion even at low temperatures. Durable and thermally stable.

### CAN BE PLASTERED

The non-woven polypropylene fabric means the support can be plastered, offering greater versatility of use.

## BYTUM SPRAY

## **BITUMINOUS MEMBRANE SEALANT SPRAY**

### DURABLE PROTECTION

The product remains flexible and seals cracks and elements by blocking water and dust infiltration.

### WEATHER RESISTANCE

The special elastomer-modified bituminous formula guarantees a product that after drying resists both weathering and salt corrosion.





### TECHNICAL DATA

Properties	value	USC units
Time required for drying 23 °C / 50% RH <sup>(1)</sup>	1 - 2 h	-
Temperature resistance after drying	-10/+60 °C	+14/+140 °F
Yield <sup>(1)</sup>	4 m <sup>2</sup>	43.06 ft <sup>2</sup>
Application temperature (cartridge, support and ambient) <sup>(2)</sup>	+5/+35 °C	+41/+95 °F
Transport temperature	+5/+35 °C	+41/+95 °F
Storage temperature <sup>(3)</sup>	+5/+30 °C	+41/+86 °F
VOC	46 %/460 g/l	-

<sup>(1)</sup>Average value that varies depending on the desired thickness of the layer.
 <sup>(2)</sup>When application is complete, turn the can upside down and spray for 1-2 seconds so the nozzle stays clean.
 <sup>(3)</sup>Store the product in a dry, covered location away from heat, open flames or other sources of ignition. Check the date of manufacturing on the packaging.

Waste classification (2014/955/EU): 16 05 04.

Aerosol 1. Skin Irrit. 2. STOT SE 3. Aquatic Chronic 2.

## CODES AND DIMENSIONS

CODE	content	content	colour	
	[ml]	[US fl oz]		
BYTS	500	16.90	black	12



## UNIVERSAL

Suitable for all types of support, it adheres to all types of shapes including roofs, gutters, terraces, skylights, PVC or metal drainpipes.

### FAST INSTALLATION

The product is supplied in a convenient, resealable, ready-to-use spray can that can be applied without the need for additional tools.

## ■ RECOMMENDATIONS FOR INSTALLATION

SEALING OF CRACKS AND CROSSING POINTS



1 BYTUM REINFORCEMENT

### FASTENING SYSTEMS WATERPROOFING









## BYTUM LIQUID | REINFORCEMENT

## SPREADABLE WATERPROOF SHEATH | REINFORCING LAYER





CE

EN 1504-2 EN 14891 EN 15814

### VERSATILE

Multipurpose waterproof product made from bitumen, selected elastomeric resins and special additives. Thanks to its unique composition, it is both paintable and suitable for use as an underfloor waterproof solution.

### REINFORCEABLE

When used with REINFORCEMENT, BYTUM LIQUID is also effective for vertical applications, high-stress supports and surfaces larger than 10 m<sup>2</sup>.

## COMPOSITION - REINFORCEMENT

(1) non-woven PL fabric

### CODES AND DIMENSIONS

### BYTUM LIQUID

CODE	content	content	colour	
	[kg]	[lb]	(wet/dry)	
BYTL10	10	22	black/grey	24

### BYTUM REINFORCEMENT

CODE	Н	L	А	Н	L	А	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYTR	1	50	50	3	164	538	24



## DURABLE

Its special formula provides excellent elasticity and waterproofing properties. BYTUM LIQUID provides long-lasting performance with excellent resistance to water stagnation, weathering and UV rays.



IIN

## ■ TECHNICAL SPECIFICATIONS | BYTUM LIQUID

Properties	standard	value	USC units
Classification <sup>(1)</sup>	EN 1504-2	C PR-PI-MC-IR	-
Classification <sup>(2)</sup>	EN 14891	DM O1	-
Density	EN ISO 2811-1	approx. 1,5 kg/L	15.03 lb/gal
Maximum applicable thickness (in two layers) <sup>(3)</sup>	-	3 mm	118 mil
Dry residue (m/m a 130 °C)	EN ISO 3251	approx. 77%	-
Time required for application of each layer on the previous one 23 $^\circ C/50\%~RH^{(4)}$	-	24 h	-
Time required for drying 23 °C/50% $RH^{(4)}$	-	48 h	-
Resistance to temperature	-	-30/+80 °C	-22/+176 °F
Application temperature (product, ambient and support)	-	+5/+35 °C	+41/+95 °F
Reaction to fire	EN 13501-1	E	-
Brookfield viscosity	EN ISO 3219	65000 <u>+</u> 13000 cP	-
рН	-	approx. 7,5	-
Direct traction adhesion on timber/metal	EN 1542	1,70 N/mm <sup>2</sup>	246.56 psi
Flexibility at low temperatures	EN 1109	-10 °C	-
Elongation at failure	EN 12311-1	> 200%	-
CO <sub>2</sub> permeability S <sub>d</sub>	EN 1062-6	> 50 m	-
Material yield per 1 mm thickness	-	1,5 kg/m <sup>2</sup>	-
Water vapour transmission Sd <sup>(5)</sup>	EN ISO 7783	l class: < 5 m	-
Free water permeability	EN 1062-3	$w < 0,1 \text{ kg}/m^2 \cdot h^{0,5}$	-
Abrasion resistance (Taber test)	EN ISO 5470-1	< 3 g	-
Impact resistance	EN ISO 6272-1	III class (≥ 20 Nm)	-
Crack bridging ability (method A)	EN 1062-7	A5 class (≥ 10 mm)	-
Tensile adhesion after immersion in water	EN 14891	> 0,5 N/mm <sup>2</sup>	> 75.52 psi
Tensile adhesion after thermal ageing	EN 14891	> 0,5 N/mm <sup>2</sup>	> 75.52 psi
Tensile adhesion after freeze-thaw cycles	EN 14891	> 0,5 N/mm <sup>2</sup>	> 75.52 psi
Tensile adhesion after contact with lime water	EN 14891	> 0,5 N/mm <sup>2</sup>	> 75.52 psi
Watertightness	EN 14891	compliant	-
Storage temperature <sup>(6)</sup>	-	≥ +5 °C	≥ +41 °F

 (1) C PR-PI-MC-IR protective surface coating.
 (2) Water-based DM O1 waterproofing product applied liquid in dispersion with improved crack bridging capability and at low temperature (-5°C) greater than 0,5 N/mm<sup>2</sup>.
 (3) On surfaces larger than 10 m<sup>2</sup>, apply REINFORCEMENT on the first wet layer. Wait until completely dry before applying the second layer.
 (4) The data supersect manuary depending on the thickness of the product applied and the specific installation conditions: temperature, humidity, ventilation, absor-<sup>(4)</sup> The data expressed may vary depending on the thickness of the product applied and the specific installation conditions: temperature, humidity, ventilation, absor-

bency of the substrate. <sup>(5)</sup> Average value that varies depending on the desired thickness of the layer.

<sup>(6)</sup> Store the product in a dry, covered location in its original sealed container (frost sensitive).

Waste classification (2014/955/EU): 16 03 06.

## TECHNICAL DATA | BYTUM REINFORCEMENT

Properties	standard	value	USC units
Mass per unit area	EN 29073-1	100 g/m <sup>2</sup>	0.33 oz/ft <sup>2</sup>
Thickness	EN 29073-2	0,5 mm	19.69 mil
Tensile strength MD/CD	EN 29073-3	335/300 N/50 mm	38/38 lbf/in
Tear strength	DIN 53363	145 N	33 lbf
Resistance to nail tearing	EN 12310	170 N	38 lbf

#### RELATED PRODUCTS



MARLIN, CUTTER page 394



BLACK BAND

page 144



BYTUM SPRAY page 48



GROUND BAND page 32

## **RECOMMENDATIONS FOR INSTALLATION**

WATERPROOFING OF WALL-TO-CEILING CORNERS

















1 MARLIN, CUTTER

## BYTUM PRIMER

## UNIVERSAL PRIMER FOR MEMBRANES AND **BITUMINOUS TAPES**



### HIGH PERFORMANCE

Prime coat before gluing bitumen-polymer membranes or applying bituminous liquid sheathing on cementitious and poorly cohesive structures. Applicable by spray, brush and roller.

### VERSATILE

Excellent adhesion and penetration on all dry and even slightly wet cementitious surfaces. It blocks dustiness and porosity in concrete.



## TECHNICAL DATA

Properties	standard	value	USC units
Colour (wet/dry)	-	brown/black	-
Time required for complete drying	-	30/60 min	-
Yield <sup>(1)</sup>	-	100/200 g/m <sup>2</sup>	-
Density	ISO 2811-1	approx. 1 kg/L	-
Dry residue (130 °C)	ISO 3251	approx. 25%	-
Viscosity (outflow at 20 °C, Φ 4 mm)	ISO 2431	approx. 17 seconds	-
Storage temperature <sup>(2)</sup>	-	> 5 °C	> 41 °F

(1) The data expressed may vary depending on the thickness of the product applied and the specific installation conditions: temperature, humidity, ventilation, absorbency of the substrate. <sup>(2)</sup> Store the product in a dry, covered location in its original sealed container (frost sensitive).

#### CODES AND DIMENSIONS

CODE	content	content	
	[kg]	[lb]	
ВҮТР	10	22	1



## REUSEABLE

Once the application is finished, it can be conveniently stored for later use by simply closing the bucket with its lid.

### SAFE

Being water-based, it is particularly suitable for waterproofing work in inhabited areas, where the use of solvent-based products is not recommended.

## FLUID MEMBRANE

## SYNTHETIC SEALING MEMBRANE FOR BRUSH AND SPRAY APPLICATION



The synthetic resin mix is elastic and resistant to any movement of the sealed cracks.

### FAST INSTALLATION

It can be applied using a roller, brush or spray with the possibility of inserting a synthetic reinforcing fabric.



#### **TECHNICAL DATA**

Properties	standard	value	USC units
	EN 1504-2	PI-MC-IR <sup>(1)</sup>	-
Classification	EN 14891	DM 01 <sup>(2)</sup>	-
Density	ISO 2811-1	1,45 kg/L	12.10 lb/gal
Dry residue (m/m a 130 °C)	ISO 3251	65%	-
Surface cross-linking time 23 °C/50% RH <sup>(3)</sup>	-	4 h	-
Time required for drying 23 °C/50% RH <sup>(3)</sup>	-	24 h	-
Application temperature (product, ambient and support)	-	+5/+35 °C	+41/+95 °F
Resistance to temperature	-	-20/+90 °C	-4/+194 °F
Reaction to fire	EN 13501-1	E	-
Brookfield viscosity	EN ISO 3219	60000 <u>+</u> 12000 cP	-
Material yield <sup>(4)(6)</sup>	-	> 1,5 kg/m <sup>2</sup>	-
Adhesion on concrete by direct traction	EN 1542	> 1 N/mm <sup>2</sup>	145 lbf/in <sup>2</sup>
Watertightness	EN 14891	compliant	-
Liquid water permeability (W)	EN 1062-3	< 0,1 kg/m <sup>2</sup> ·h <sup>0,5</sup>	-
Water vapour transmission (Sd) (0,2 mm)	ISO 7783	< 5 m	> 0.7 US Perm
Carbon dioxide permeability (C)	EN 1062-6	> 50 m	-
Storage temperature <sup>(5)</sup>	-	≥ +5 °C	≥ +41 °F
VOC	Dir. 2004/42/CE	2,25 % - 32,65 g/L	-

(1)Principles. Protection against penetration risks (H,I,C); humidity control (H,C); increasing resistivity by limiting humidity content (H,C). Types. H: Hydrophobic impregnation; I: Impregnation; C: Coating. <sup>(2)</sup>Water-based waterproofing product for liquid application in dispersion with improved crack bridging capability at -5 °C equal to: >0,75 mm

<sup>(3)</sup>The reported values may vary depending on the applied thickness and the specific conditions of the construction site (temperature, humidity, absorbency of the

substrate, ventilation). <sup>(4)</sup>At least two to three coats must be applied. Average consumption may vary depending on the nature and porosity of the support and the desired thickness.

<sup>(5)</sup> Store the product in a dry, covered location. Check the date of manufacturing on the packaging. It is affected by frost.

<sup>(6)</sup> On surfaces larger than 10 m<sup>2</sup>, apply REINFORCEMENT on the first wet layer. When applied on porous support surfaces, it is advisable to dilute the first layer up to 20% water. Wait until completely dry before applying the second layer.

Waste classification (2014/955/EU): 08 04 16.

## CODES AND DIMENSIONS

CODE	content	content	colour		FFFF
	[kg]	[lb]			
FLUIDMEM	10	22	grey	1	24



DAMP

ELASTIC

### 54 | FLUID MEMBRANE | TAPES AND SEALANTS

## ■ FIELDS OF APPLICATION







## PUMP SPRAY

- ELECTRIC AIRLESS SPRAYER
- Speed and efficiency
- Transparent suction system

CODE	version	pcs		
PUMPSPRAY240	240 V cable	1		
See the product on page 390.				





## SAFETY

Resistant to water stagnation on the surface, even when there is no slope. Also suitable for surfaces in industrial areas or in sea areas. Odourless and non-toxic product. Solvent-free.

### ADHERENCE

Thanks to its formulation, the product offers perfect adhesion, is suitable for complex construction details and resists micro-cracks.

## **CONSTRUCTION SEALING**

## COMPRESSIBLE SEALING GASKET FOR **REGULAR JOINTS**

### FIRE RESISTANCE OF JOINTS

In collaboration with the CSI laboratory, the product was used to test the strength of CLT joints sealed with Rothoblaas products.

### NOISE REDUCTION

The acoustic performance was tested in the Flanksound Project by Rothoblaas: using it as a wall isolation gasket provides up to 4 dB of noise reduction.



## **TECHNICAL DATA**

Properties	standard	value	USC units
Material	-	Expanded and extruded EPDM	-
Thickness	-	3 mm	118 mil
Density p	ISO 2781	approx. 0,48 g/cm <sup>3</sup>	0.28 oz/in <sup>3</sup>
Compression deformation 22h +23 °C	EN ISO 815	< 25%	-
Compression deformation 22h +40 °C	EN ISO 815	< 35%	-
Fire resistance rating on plain CLT joint (100 mm), 2 mm joint (*)	EN 1363-4	EI 90	-
Correction of $K_{ij}$ in the presence of elastic profile in the joint $\Delta_{Lij}^{(1)}$	ISO 10848-1	4 dB	-
Storage temperature <sup>(2)</sup>	-	+5/+25 °C	+41/+77 °F
Resistance to temperature	-	-35/+100 °C	- 34/+212 °F
Solvents	-	no	-

<sup>(1)</sup>Measurement performed during the Flanksound Project.

(2) Store the product in a dry, covered location.
 (\*) For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 17 02 03.

## CODES AND DIMENSIONS

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
CONSTRU4625	46	3	25	1.8	118	82	3



## **TESTED RESISTANCE**

In Rothoblaas' experimental fire protection project it was tested for an El value.

EI 90

CLT



FLANKSOUND

EN ISO 10848

## ■ FIELDS OF APPLICATION



## FIRE TIGHTNESS AND INSULATION

Tests conducted in the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of various CLT joints sealed with Rothoblaas products.

TIGHTNESS (E)	Cotton swab	> 106 minutes		
INSULATION (I)	Time	> 106 minutes	EI 90	



### NOISE REDUCTION

During the FLANKSOUND PROJECT, CONSTRUCTION SEALING campaign, it was tested to assess the vibration reduction index  $K_{ij}$  in accordance with EN ISO 10848. The results demonstrated a 4 dB reduction in an exposed CLT wall joint, confirming the product's efficacy.



## **TIE-BEAM STRIPE**

TIE BEAM SEALING PROFILE

### ADAPTABLE

Flexible profile is easy to work, thanks to the soft and shapeable mix. Guarantees simple installation and perfect adherence to any surface.

### WATERPROOF

Ideal for durable connections between girders and masonry or concrete, offering excellent resilience and ensuring reliable, lasting waterproof protection.



## **TECHNICAL DATA**

Properties	standard	value	USC units
Material	-	Extruded compact EPDM	-
Shore A hardness	EN ISO 868	50	-
Density	ISO 2781	1,1 g/cm <sup>3</sup>	0.6 oz/in <sup>3</sup>
Breaking load	EN ISO 37	≥ 9 Mpa	≥ 1.3 oz/in²
Elongation at break point	EN ISO 37	≥ 500%	-
Compression deformation (70h, +100°C)	EN ISO 815	< 50%	-
Application temperature	-	-40/+90 °C	-40/+194 °F
Resistance to temperature	-	-40/+100 °C	-40/+212 °F
Storage temperature <sup>(1)</sup>	-	+5/+25 °C	+41/+77 °F
Solvents	-	no	-

<sup>(1)</sup>Store the product in a dry, covered location.

Waste classification (2014/955/EU): 17 02 03.

## CODES AND DIMENSIONS

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
TIEBEAM71	71	9	50	2.8	354	164	1



## SMART

The pre-formed profile adapts well to surfaces, ensuring air and water tightness at all times. Its versatility also allows vertical use for sealing between walls.

## STRENGTH

Its profile ensures great elasticity and resistance even in the event of perforations and mechanical fastening thanks to the special modified EPDM compound.

## MORE ACOUSTIC COMFORT IN YOUR TIMBER HOUSE

XYLOFON is the very high performance resilient profile that ensures acoustic comfort in timber structures and houses. Made of a polyurethane compound, it is available in 5 versions from 20 to 90 shore, on the basis of the load it has to support. Tested and certified for use as a desolidarisation and mechanical interruption layer between building materials, it reduces the transmission of airborne and structural noise (up to more than 15 dB). Rely on the best performing acoustic profile on the market.

Scan the QR code and discover the technical features of XYLOFON





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rothoblaas.com



## HOW IS THE TAPE MADE?



**FINGERLIFT:** part of the liner that sticks out in order to simplify its removal

## CHOOSE A SEALING PRODUCT OR TAPE



Keep the tapes in their original packing to avoid any direct exposure to sunlight and prevent any contact with dust and dirt. For storage, it is generally a good idea to ensure certain conditions are met: temperature between 5 and 25 °C, relative humidity below 65% and avoid extreme weather conditions and direct exposure to heat sources.

## TYPE OF GLUE



### TAPE ADHESION

The function of the tape is to mechanically join two non-adhesive products together and to seal discontinuities on the surface (cracks, holes, etc.).

Special acrylic polymers are used in the production of building tape glue to create **pressure sensitive adhesives (PSA**). This characteristic allows the adhesive to exploit the roughness of the surface, penetrate the micropores and ensure adhesion.

A tape's adhesion depends on numerous factors, including the surface roughness, glue viscosity and surface material. The material is important due to the chemical-physical interaction that occurs between the tape and the surface.



### FACTORS INFLUENCING ADHERENCE



The special chemical composition of the adhesive allows it to establish secondary interactions with the surface, based on a mechanism similar to that which allows a gecko to walk on window glass. This property significantly increases the adhesion of the tape. The adhesive is able to exploit the roughness of the surface by penetrating into the microporosity to create adhesion.

#### **GLUE VISCOSITY**

Another crucial factor in ensuring efficient adhesion is glue viscosity. A highly viscous glue tends to be more rigid, struggling to penetrate the micropores of the surface, potentially limiting adhesion on very irregular surfaces. On the other hand, a low-viscosity glue is more flexible and is better able to adapt to the roughness of the substrate. It is important to remember that viscosity, and therefore glue efficacy, vary depending on the ambient temperature.



Example of a very viscous glue. The red lines represent the contact area. **Small contact surface.** 



Example of a low viscosity glue. The red line represents the contact area. Large contact surface.

### ADHESION

This is the force exerted between the glue and the surface to which the tape is glued. The adhesion required depends on the application. It is influenced by the support material and roughness.



Highly adhesive, glue-rich tapes efficiently adhere to rough surfaces, whereas on smooth surfaces, cohesion becomes the key property. In laboratory tests often conducted on smooth surfaces like steel, cohesive strength tends to prevail over adhesion. In summary, adhesion is more evident on irregular surfaces where a greater quantity of glue helps to create a more solid bond with the substrate. On smooth surfaces, where optimal adhesion is easier to achieve, the tape's performance mostly depends on the glue's cohesion.



COHESIVE FRACTURE

COHESION

This is the force acting within the glue, depending on the

intensity of the interaction between the glue molecules.

It must be high enough to reduce creep.

In the case of building tapes, a cohesive fracture in the supports (membranes) is preferable as this exploits the maximum strength of the joint.



There is a separation between the two surfaces: glue cohesion > applied force > adhesion



Membrane fracture: adhesive strength and glue cohesion > applied force



**GLUE PROPERTIES** 

## **TAPES AND DURABILITY**

## WEATHERING RESISTANCE TEST IN FLORIDA



Florida is the only true subtropical region in the United States and is an internationally recognised site for outdoor weather exposure due to the synergistic effect of:

- presence of strong solar radiation
- prolonged exposure to UV radiation
- high temperatures throughout the year
- heavy rainfall
- high humidity



## ${f 1}$ year of exposure in Florida $>{f 1}$ year in the rest of the world

The test accelerated the degradation process of products exposed to weathering, improving our knowledge of the material. The test results enabled us to project the tapes' long-term performance and confirmed their excellent durability.

The tested tapes, **SPEEDY BAND** and **FLEXI BAND**, retained their excellent mechanical and adhesion properties, confirming the maximum exposure values stated in the technical data sheets despite the particularly aggressive weather conditions in Florida.

The tests were conducted at regular intervals to monitor and better understand the changes caused by exposure to weathering.



EN ISO 29864



EN ISO 29862



#### HOW DOES TAPE DEGRADATION OCCUR?

Every material has its own sources of degradation.

UV rays, high temperatures, pollution and mechanical stresses affect the durability of the tapes by acting on polymers that compose them.



Each source of degradation listed above has a negative effect on the performance of the material. However, it is the sum of several degradation factors that represents the critical situation of the products durability.

#### SOURCE OF DEGRADATION



#### LEGEND

\_\_\_\_\_ single source of degradation

---- sum of several sources of degradation

In the presence of multiple sources of degradation, performance decline occurs faster and more sharply.

### NOT JUST TAPES - ARTIFICIAL AGEING TESTS FOR TAPES AND MEMBRANES

**ROTHOBLAAS** is dedicated to thoroughly understanding not only the properties and characteristics of its products but also the significance of the regulations and tests used to characterise them. As part of the **MEZeroE** project, we partnered with the **CRACOW UNIVERSITY OF TECHNOLOGY** to subject several of our tapes and membranes to a rigorous artificial ageing process in accordance with UNI EN 13859-1, the standard used for CE marking of waterproofing membranes.

Ageing in accordance with UNI EN 13859-1



UV rays

temperature

The ageing process in accordance with this standard is based on EN 1297 and EN 1296. The process involves:

- Continuous UV radiation at high temperature for 5000 hours
- Exposure to heat only, for 90 days

EN 13859-2 defines this ageing procedure as suitable for verifying the durability of membranes permanently exposed to UV rays. The results show that the products continue to perform well over the long term.

#### THIS AGEING PROCESS HAS BEEN USED TO:

- Test the strength of membrane-tape-membrane connections in accordance with UNI EN 12317-2 before and after ageing.
- Observe changes on the surface and inside the material of our products using cutting-edge tools such as the SEM (scanning electron microscope) and FTIR spectroscopy.

### WHAT DID THESE TESTS TELL US?

- In connections between membranes with a non-woven fabric surface using SMART BAND and FLEXI BAND UV tapes, the maximum strength values remain unaltered even after ageing.
- The non-woven fabric layer of the breathable membrane TRASPIR EVO UV 115 exceeds the minimum CE marking requirements by effectively protecting the functional film against UV radiation, even from a chemical standpoint.



EN ISO 29864



UV ageing oven



#### **IN-DEPTH ANALYSIS**



A Matter of Chemistry – FTIR spectroscopy, commonly used in the analysis of polymeric materials, precisely defines the material's composition. It was used to observe structural changes in the material over the ageing period.



This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.

#### MICROSCOPIC DETAIL



Image of the non-woven fabric surface of one of our membranes, obtained with a scanning electron microscope at 500x magnification. This image is helpful in performing a preliminary analysis of the effects of ageing.

## ALU BAND

## REFLECTIVE SINGLE-SIDED ADHESIVE TAPE FOR INDOOR USE

### HEAT-RESISTANT UP TO 130°C

The combination of glue and aluminium carrier makes it possible to achieve very high thermal stability without compromising the glue adhesion and viscosity.

### VERSATILE

Applicable on thermo-hydraulic structures, thanks to the high thermal reflectance and the glue that guarantees excellent adhesion.



## **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness	EN 1942	0,06 mm	2 mil
Tensile strength	ISO 29864	> 25 N/cm	> 14.28 lbf/in
Elongation	ISO 29864	> 5%	-
Adhesion strength on steel	EN 1939	> 8 N/cm	> 4.57 lbf/in
Water vapour transmission (Sd)	EN 1931	approx. 100 m	approx. 0.035 US perm
Watertightness	-	compliant	-
Deaction to fire	DIN 4102-1	class B1	-
Reaction to fire	EN 13501	class E	-
Resistance to temperature	-	-40/+130 °C	-40/+266 °F
Application temperature <sup>(1)</sup>	-	> -10 °C	> +14 °F
Storage temperature <sup>(2)</sup>	-	+5/+35 °C	+41/95 °F
French VOC classification	ISO 16000	A+	
Solvents	-	no	-

 $^{(1)}$  On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.  $^{(2)}$ Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 17 09 04.

## CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
ALUBAND50	50	50	2.0	164	24
ALUBAND75	75	50	3.0	164	18



## VAPOUR BARRIER

The aluminium carrier offers very high vapour protection and watertightness, making it ideal in combination with the BARRIER ALU line and in applications for technical installations.



REFLECTIVE

HIGH TEMPERATURE



# The theory, in practice, is on YouTube

When you need a deeper understanding of how and where to apply our products, a catalogue isn't enough.

Installation instructions and practical tips for each field of application are available on our **YouTube channel**.





Solutions for Building Technology

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## DOUBLE BAND UNIVERSAL DOUBLE-SIDED TAPE

#### **EXCELLENT ADHESION**

The solvent-free acrylic glue mix ensures excellent adhesion on most common supports, even at low temperatures. The membrane joint created with DOUBLE BAND recorded the highest tensile strength value following internal tests conducted with the best-performing tapes in the range.

### PERFECT INVISIBLE SEALING

DOUBLE BAND allows a perfect, well-hidden seal, providing protection against weathering and long-term durability, as confirmed by the ageing tests passed in accordance with DIN 4108-11.

### 

- (1)release liner: silicone coated paper
- (2) glue: acrylic dispersion without solvents
- (з) reinforcing layer: polyester reinforcing grid
- glue: acrylic dispersion without solvents (4)

## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	DIN EN 1942	0,25 mm	10 mil
Adhesion strength on steel at 180°	EN ISO 29862	≥ 25 N/25 mm	≥ 5.71 lbf/in
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	5,0 N/10 mm	2.9 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	10,0 N/10 mm	5.7 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN 12316-2	27,0 N/50 mm	3.1 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	EN 12317-2	280,0 N/50 mm	32.0 lbf/in
		40d compliant	-
Adhesion strength on membrane in PA/PP after ageing	DIN 4108-11	80d compliant	-
		120d compliant	-
Watertightness	-	compliant	-
Application temperature <sup>(3)</sup>	-	-10/+40 °C	+14/+104 °F
Resistance to temperature		-30/+100 °C	-22/+212 °F
Storage temperature <sup>(4)</sup>	-	+5/+25 °C	+41/+77 °F
Solvents	-	no	-

<sup>(1)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.

<sup>(2)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
 <sup>(3)</sup>On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(4)</sup>Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

### CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
DOUBLE40	40	50	1.6	164	8





۵ DIN 4108-7 DIN 4108-11



## ■ FIELDS OF APPLICATION







## RELATED PRODUCTS



SUPRA BAND page 140



ROLLER page 393



MARLIN page 394



PLASTER BAND LITE page 69



## SAFE

In spite of the low thickness, the sealing will be secure thanks to the reinforcing grid.

### **RESISTANCE TO TEMPERATURE**

Thanks to its special formulation, the acrylic glue ensures excellent stability against temperature ranges.

## SEAL BAND | SEAL SQUARE

## SINGLE-SIDED TAPE FOR INDOOR USE

### EFFECTIVE

The preformable carrier simplifies and enhances the sealing of concave or convex corners and edges.

### SQUARE VERSION

Ideal for small point seals or holes for the blowing technique, where precision is required.

## Ę,



## COMPOSITION

- (1) support: reinforced paper with protective film
- (2) glue: acrylic dispersion without solvents
- (3) release liner: silicone coated paper

## CODES AND DIMENSIONS

### SEAL BAND

CODE	liner	В	L	liner	В	L	
	[mm]	[mm]	[m]	[in]	[in]	[ft]	
SEAL60	60	60	25	2.4	2.4	82	10
SEAL1248	12/48	60	25	0.5/1.9	2.4	82	10
SEAL3030	30/30	60	25	1.2/1.2	2.4	82	10

### SEAL SQUARE

CODE	В	Н	L	В	Н	L	pcs/roll	
	[mm]	[mm]	[m]	[in]	[in]	[ft]		
SEAL180	180	180	36	7.1	7.1	118	200	1



## FAST INSTALLATION

Versions with pre-cut liner are available for quick and easy installation.

### SAFE

Reinforced paper support, ideal for indoor use; airtightness guaranteed over time.





INDOOR SEALING

## **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness	EN 1942	0,3 mm	13 mil
Adhesion strength on steel at 90°	ISO 29862	≥ 35 N/25 mm	≥ 8 lbf/in
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	3,5 N/10 mm	2.0 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	11,0 N/10 mm	6.3 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN 12316-2	15,0 N/50 mm	1.7 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	EN 12317-2	120,0 N/50 mm	13.7 lbf/in
Water vapour transmission (Sd)	EN ISO 12572	6 m	0.58 US Perm
Application temperature <sup>(3)</sup>	-	0/+40 °C	+32/+104 °F
Resistance to temperature	-	-30/+100 °C	-22/+212 °F
Storage temperature <sup>(4)</sup>	-	+15/+25 °C	+59/+77 °F
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Solvents	-	no	-

(1)Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
 (2)Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
 (3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.
 (4)Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

## ■ FIELDS OF APPLICATION







#### PRODUCT RANGE



SEAL60



SEAL1248





SEAL3030

SEAL180

## RECOMMENDATIONS FOR INSTALLATION

CORNER DETAIL









- 2 MARLIN, CUTTER
- 4 ROLLER












BEAM SEAL DETAIL





1 MARLIN, CUTTER

3 ROLLER

#### WINDOW HOLE SEALING DETAIL



1 MARLIN, CUTTER

4 ROLLER

## **EASY BAND** UNIVERSAL SINGLE-SIDED TAPE

# 



#### VERSATILE

Progress adhesion, stable over time, for the most common supports.

#### INDUSTRIAL USE

Adhesive mix and versions designed for prefabrication are also available.



#### **COMPOSITION**

- (1) support: PE film
- (2) glue: acrylic dispersion without solvents
- (3) reinforcing layer: polyester reinforcing grid
- (4) glue: acrylic dispersion without solvents
- (5) release liner: silicone coated paper

## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	-	0,28 mm	11 mil
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	4,5 N/10 mm	2.6 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	10,0 N/10 mm	5.7 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN 12316-2	26,0 N/50 mm	3.0 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	EN 12317-2	55,0 N/50 mm	6.3 lbf/in
Adhesion strength on steel at 180°	EN ISO 29862	> 30 N/25 mm	8 lbf/in
Water vapour transmission (Sd)	EN ISO 12572	40 m	0.09 US Perm
Exposure to weather	-	4 months	-
Application temperature <sup>(3)</sup>	-	-10/+40 °C	+14/+212 °F
Resistance to temperature	-	-40/+100 °C	-40/+212 °F
Storage temperature <sup>(4)</sup>	-	+15/+25 °C	+59/+77 °F
French VOC classification	ISO 16000	A+	-
Emicode	GEV test procedure	EC1 plus	-
Solvents	-	no	-

<sup>(1)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.

<sup>(2)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.

(3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(4)</sup>Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

## CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
EASY50XL	50	50	2.0	164	12
EASY60XL	60	50	2.4	164	10

## ■ FIELDS OF APPLICATION







## RELATED PRODUCTS





PRIMER page 113



CUTTER page 394



ROLLER page 393



## COST-PERFORMANCE

The packaging and the mix of glue and carrier made it possible to obtain a very good product at a low cost.

## ALSO FOR WARM CLIMATES

The type and amount of glue, as well as the choice of carrier make this tape suitable for sealing smooth surfaces exposed to high temperatures. As a result, tape slippage is prevented in situations where the glue would normally soften.

# SPEEDY BAND

UNIVERSAL SINGLE-SIDED TAPE WITHOUT RELEASE LINER

#### FAST INSTALLATION

Can be applied both internally and externally, guarantees fast and secure sealing on the most common materials.

#### SUSTAINABLE

COMPOSITION

support: PE film

(1)

(2)

(3)

(4)

The lack of a release liner means less waste to dispose of.

## glue: solvent-free UV-crosslinked acrylic reinforcing layer: polyester reinforcing grid glue: solvent-free UV-crosslinked acrylic

## **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness	AFERA 5006	0,25 mm	10 mil
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	4,8 N/10 mm	2.6 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	11,0 N/10 mm	6.3 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN 12316-2	26,0 N/50 mm	3.0 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	EN 12317-2	120 N/50 mm	13.7 lbf/in
Adhesion strength on steel at 90°	AFERA 5001	≥ 25 N/25 mm	≥ 5.71 lbf/in
Water vapour transmission (Sd)	EN 1931	40 m	0.09 US Perm
Exposure to weather	-	12 months	-
Watertightness	-	compliant	-
Resistance to temperature	-	-40/+80 °C	-40/+176 °F
Fire resistance rating on plain CLT joint (100 mm), 3 mm joint(*)	EN 1363-4	EI 90	-
Application temperature <sup>(3)</sup>	-	-10/+ 40 °C	+14/+86 °F
Storage temperature <sup>(4)</sup>	-	+5/+30 °C	+41/+86 °F
French VOC classification	ISO 16000	A+	-
Solvents	-	no	-

<sup>(1)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm. <sup>(2)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm

(3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

(4) Store the product in a cool, dry place for no more than 6 months.

(\*) For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 10.

## CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
SPEEDY50XL	50	50	1.9	164	12
SPEEDY60	60	25	2.4	82	10
SPEEDY100	100	25	3.9	82	6
SPEEDY150	150	25	5.9	82	4
SPEEDY300	300	25	11.8	82	2



ND LINER EASY TEAR

DURABILITY TESTED

EI 90

CLT



### FIELDS OF APPLICATION





#### FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

TICUTNESS (F)	Cotton swab	106 minutes	
TIGHTNESS (E)	Persistent flame	> 106 minutes	
INSULATION (I)	Time	> 106 minutes	EI 90



SPEEDY BAND satisfied all requirements in the material durability test campaign. After 12 months of exposure to the Florida climate – marked by high temperatures, high humidity and intense exposure to UV rays – the tape exhibited excellent ageing resistance despite the colour variation typical of plastics exposed to UV rays. It maintained stable adhesion levels and a tensile strength exceeding 60% of the initial values. For more information about the test, see page 64.

SPEEDY BAND	60
	100
	3

DURABILITY		
exposure	12 months	DURABILITY TESTED

#### RANGE









SPEEDY50XL

SPEEDY60 SPEEDY100

SPEEDY150 SPEE

SPEEDY300



SPEEDY ROLL see page 389

## EASY TEAR

It can be easily torn off thanks to the serrated edges that facilitate directional breaking of the tape without the use of scissors or cutters.

#### UNIVERSAL

Speed and good adhesion strength on most common building materials.



# FLEXI BAND

## UNIVERSAL SINGLE-SIDED HIGH-ADHESION TAPE

#### UNIVERSAL PERFORMANCE

Excellent initial tack and superior adhesion strength even on dusty, porous or damp surfaces. In the internal test campaign on the adhesion strength of the best-performing tapes in the range, FLEXI BAND recorded the highest values in the peeling tests on OSB supports at 90° and 180° in the acrylic tape category.

#### ALSO AT LOW TEMPERATURES

The combination of carrier and acrylic dispersion glue is designed for good adhesion even in extremely cold temperatures.



|A+



## COMPOSITION

- (1) support: PE film
- (2) glue: acrylic dispersion without solvents
- (3) reinforcing layer: reinforcing polyester grid
- (4) glue: acrylic dispersion without solvents
- (5) release liner: silicone coated paper

## CODES AND DIMENSIONS

CODE	liner	В	L	liner	В	L	
	[mm]	[mm]	[m]	[in]	[in]	[ft]	
FLEXI60	60	60	25	2.4	2.4	82	10
FLEXI100	100	100	25	3.9	3.9	82	6
FLEXI5050	50/50	100	25	2.0/2.0	3.9	82	6
FLEXI7575	75/75	150	25	3.0/3.0	5.9	82	4



## HIGH PERFORMANCE

Guaranteed adhesion over time, even on dusty, porous or damp surfaces.

## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	DIN EN 1942	0,32 mm	13 mil
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	6,5 N/10 mm	3.7 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	12 N/10 mm	6.9 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN 12316-2	30,0 N/50 mm	3.4 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	EN 12317-2	70 N/50 mm	8.0 lbf/in
Adhesion strength on steel at 180°	ISO EN 29862	≥ 30 N/25 mm	≥ 6.85 lbf/in
Tensile strength	EN ISO 29864	≥ 50 N/25 mm	≥ 11.42 lbf/in
	EN 1931	approx. 45 m	-
Water vapour transmission (Sd)	ASTM EQ6 (dry cup)	6,27 ng/(m <sup>2</sup> ·24h)	-
	ASTM E90 (dry cup)	0.11 US Perm	-
Exposure to weather		> 6 months	-
Fire resistance rating on plain CLT joint (100 mm),5 mm joint combined with FIRE STRIPE GRAPHITE(*)	EN 1363-4	EI 90	-
Fire tightness and insulation on plain CLT joint, 2 mm joint(*)	EN 1363-4	> 100 minutes	
Application temperature <sup>(3)</sup>		-18/+40 °C	0/+104 °F
Resistance to temperature		-40/+80 °C	-40/+176 °F
Storage temperature <sup>(4)</sup>		+5/+25 °C	+41/+77 °F
Resistance to water penetration at 300 Pa on wall	ASTM E331	compliant	-
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Solvents	-	no	-

<sup>(1)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.

(a) Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
(2) Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
(3) On dry support and at a temperature > -13 °C. The absence of condensation or frost on the surface must be guaranteed.
(4) Store the product in a cool, dry place for no more than 12 months.
(\*) For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 10

#### FIELDS OF APPLICATION



## FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

	Cotton swab	> 106 minutes	
TIGHTNESS (E)	Persistent flame		
INSULATION (I)	Time	> 106 minutes	EI 90



### DURABILITY

FLEXI BAND satisfied all requirements in the material durability test campaign. After 6 months of exposure to Florida's harsh outdoor conditions - marked by high temperatures, high humidity and intense exposure to UV rays - the tape exhibited excellent weathering resistance while retaining its tensile and adhesion strength values.

For more information about the test, see page 64.

DURABILITY		
exposure	6	
	months	TESTEIL

## FLEXI BAND UV

## UNIVERSAL SINGLE-SIDED ADHESIVE TAPE WITH HIGH UV STABILITY AND TEMPERATURE RESISTANCE

#### UV STABILITY AND AGEING

The special carrier is designed to offer excellent UV stability, while maintaining mechanical and adhesion properties over time due to excellent ageing resistance.

#### TEMPERATURE RESISTANCE UP TO 120°C

The combination of glue and polypropylene carrier makes it possible to achieve very high temperature stability without compromising the glue adhesion and viscosity.



- (1) support: PP film
- (2) glue: acrylic dispersion without solvents
- (3) reinforcing layer: reinforcing polyester grid
- (4) glue: acrylic dispersion without solvents
- (5) release liner: silicone coated paper



DURABILITY TESTED

### CODES AND DIMENSIONS

CODE	liner	В	L	liner	В	L	
	[mm]	[mm]	[m]	[in]	[in]	[ft]	
FLEXIUV60	60	60	25	2.4	2.4	82	10
FLEXIUV100	100	100	25	3.9	3.9	82	6
FLEXIUV7575	75/75	150	25	3.0/3.0	5.9	82	4



## FLEXIBILITY

The carrier is made with a special copolymer mix that ensures high elasticity and deformation capacity for the most complex details without compromising mechanical strength.

## SPECIAL GLUE

The solvent-free acrylic glue mix ensures excellent adhesion on most common supports. In addition, it is extremely stable at high temperatures so that it does not extend at the tape edges and create problems during transport and installation.





100% UV HIGH RESISTANCE TEMPERATURE

## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	-	0,33 mm	13 mil
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	5,0 N/10 mm	2.9 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	11 N/10 mm	6.3 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN 12316-2	28,0 N/50 mm	3.2 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	EN 12317-2	70,0 N/50 mm	8.0 lbf/in
Adhesion strength on steel at 180°	ISO 29862	≥ 35 N/25 mm	≥ 8 lbf/in
Tensile strength	EN ISO 29864	20 N/10 mm	11.4 lbf/in
Water vapour transmission (Sd)	EN 1931	20 m	0.17 US Perm
Exposure to weather	-	24 months	-
Application temperature <sup>(3)</sup>	-	> -10 °C	> +14 °F
Resistance to temperature	-	-40/+120 °C	-40/+248 °F
Storage temperature <sup>(4)</sup>	-	+5/+25 °C	+41/+77 °F
French VOC classification	ISO 16000	A+	-
Solvents	-	no	-

<sup>(1)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.

(2)Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
(3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(4)</sup>Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

#### FIELDS OF APPLICATION



#### ARTIFICIAL AGEING

As part of the MEZeroE project, the Cracow University of Technology subjected not only the individual membrane but also the TRASPIR EVO UV 115 membrane + FLEXI BAND UV tape system to artificial ageing caused by exposure to UV rays and heat.





This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.

## **FACADE BAND UV**

## UNIVERSAL SINGLE-SIDED TAPE, RESISTANT TO UV RAYS

### UV STABILITY

Ideal for sealing façades and overlapping membranes due to its high elasticity and UV resistance.

#### DISCREET

Developed for application on TRASPIR for facade and TRASPIR EVO 300 for excellent aesthetic performance.

### 

- (1)support: PP film
- (2) glue: acrylic dispersion without solvents
- (3) reinforcing layer: reinforcing polyester grid
- (4) glue: acrylic dispersion without solvents
- release liner: silicone coated paper (5)



100% UV HIGH/LOW RESISTANCE TEMPERATURE

## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	EN 1942	0,32 mm	13 mil
Adhesion strength on OSB at 90° after 10 minutes	ISO 29862	5,0 N/10 mm	2.9 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	11,0 N/10 mm	6.3 lbf/in
Adhesion strength (average) on membrane in PP after 24 $hours^{(1)}$	ISO 12316-2	30,0 N/50 mm	3.4 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	ISO 12317-2	60,0 N/50 mm	6.9 lbf/in
Adhesion strength on steel at 180°	ISO 29862	≥ 35 N/25 mm	≥ 8 lbf/in
Tensile strength	EN ISO 29864	17,5 N/10 mm	10 lbf/in
Water vapour transmission (Sd)	EN 1931	20 m	0.17 US Perm
Watertightness	-	compliant	-
Weathering without final cladding	-	24 months	-
UV stability with joints up to 50 mm wide exposing no more than 40% of the surface	-	permanent	-
Application temperature <sup>(3)</sup>	-	> -13 °C	> 0 °F
Resistance to temperature	-	-40/+120 °C	-40/+248 °F
Storage temperature <sup>(4)</sup>	-	+5/+25 °C	+41/+77 °F
French VOC classification	ISO 16000	A+	-
Solvents	-	no	-

<sup>(1)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.

(2)Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
(3) On dry support and at a temperature > -5 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(4)</sup>Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

### CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
FACADEUV60	60	25	2.4	82	10



D

DIN 4108-7

DURABILITY TESTED

0 

CAMOUFLAGE

### ■ FIELDS OF APPLICATION



### ARTIFICIAL AGEING

As part of the MEZeroE project, the Cracow University of Technology subjected not only the individual membrane but also the TRASPIR EVO UV 115 membrane + FLEXI BAND UV (FACADE BAND UV) tape system to artificial ageing caused by exposure to UV rays and heat.



\*FACADE BAND UV belongs to the same family of products as FLEXI BAND UV. Compared to FLEXI BAND UV, FACADE BAND UV features a carrier with higher UV stability thanks to the incorporation of specific additives. The results are therefore representative of this product too.



This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.



### SAFETY

High adhesion even at high and low temperatures for secure, airtight fastening.

#### TEMPERATURE RESISTANCE UP TO 120°C

The combination of glue and polypropylene carrier makes it possible to achieve very high thermal stability without compromising the glue adhesion and viscosity.

## **SMART BAND**

## UNIVERSAL SINGLE-SIDED TAPE WITH SEPARABLE LINER

#### SPECIAL LINER

The product has a unique separating film which, thanks to a special treatment, can be divided at any point without pre-cutting, thus adapting to any installation requirement.

#### **FLASHING TAPE**

It meets all the requirements to be classified as a tape for sealing external doors or windows, ensuring maximum safety even in case of stagnant water, heavy rain and perforations.

## 

(1)support: PE special film

- (2) support: UV-stabilised PE film
- (з) glue: acrylic dispersion without solvents
- $(\mathbf{4})$ release liner: PP film with easy splitting

## **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness	-	0,24 mm	9 mil
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	3,5 N/10 mm	2.0 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	7,0 N/10 mm	4.0 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN 12316-2	26,0 N/50 mm	3.0 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	EN 12317-2	55,0 N/50 mm	6.3 lbf/in
Adhesion strength on steel at 90°	AFERA 5001	≥ 12 N/10 mm	≥ 6.9 lbf/in
Tensile strength	ASTM D 1000	30 N/10 mm	17.1 lbf/in
Elongation at failure	ASTM D 1000	≥ 400 %	-
Watertightness	EN 1928	class W1	-
Exposure to weather	-	12 months	-
Resistance to water penetration at 300 Pa on wall	ASTM E331	compliant	-
Application temperature <sup>(3)</sup>	-	-10/+40°C	+14/+104 °F
Resistance to temperature	-	-30/+80 °C	-22/+176 °F
Storage temperature <sup>(4)</sup>	-	+5/+30 °C	+41/+86 °F
Solvents	-	no	-

4 3 2 1

<sup>(1)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.

<sup>(2)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm

(3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.
(4) Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

#### CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
SMART60	60	25	2.4	82	10
SMART75	75	25	3.0	82	8
SMART100	100	25	3.9	82	6
SMART150	150	25	5.9	82	4
SMART225	225	25	8.9	82	2
SMART300	300	25	11.8	82	2





D DIN 4108-7

### FIELDS OF APPLICATION







## **RESISTANCE TO WATER PENETRATION**

SMART BAND has been tested in accordance with ASTM E331 to confirm its effectiveness against water jets at 75 Pa and 300 Pa.





🚱 MEZEROE

## ARTIFICIAL AGEING

The joint consisting of the TRASPIR EVO 160 membrane and SMART BAND universal single-sided adhesive tape was exposed to UV rays and heat and subjected to artificial ageing as part of the European MEZeroE project in cooperation with the Cracow University of Technology.



LEGEND: \_\_\_\_\_ before ageing

----- after ageing



This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.



## **UV STABLE**

-80

-60

The double support stabilised against UV rays makes the tape particularly resistant to ageing and mechanical stress, thanks to its high deformability.

#### SMART

The tape is unique and extremely versatile. Thanks to the easy-splitting liner, only a few sizes can be stored to meet any construction requirement.

#### RECOMMENDATIONS FOR INSTALLATION



#### WINDOW HOLE SEALING















3 MARLIN, CUTTER

5 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES



















# INVISI BAND

## TRANSPARENT SINGLE-SIDED ADHESIVE TAPE WITHOUT LINER, RESISTANT TO UV AND HIGH TEMPERATURES



#### TRANSPARENT

The advantage is unbeatable and twofold:

- it allows for the inspection of any type of sealing performed, especially in the case of joints between timber panels;
- it preserves the natural aesthetics of timber, making it the preferred choice on heritage sites.

#### QUICK AND SUSTAINABLE

The absence of a separating film allows both fast installation and greater sustainability than other products.

It is easily torn off without the use of a cutter, making installation even easier and faster.

#### STABLE AND RESISTANT

Adhesion and mechanical properties of INVISI BAND remain unchanged over time. UV stability has an excellent range, allowing the tape to be used in particularly exposed areas. It is airtight and waterproof.

#### **COMPOSITION**

- (1) support: PE special film
- (2) glue: acrylic dispersion without solvents
- (3) reinforcing layer: reinforcing PES grid
- (4) glue: acrylic dispersion without solvents

### CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
INVISI60	60	25	2.4	82	10
INVISI100	100	25	3.9	82	6
INVISI200	200	25	7.9	82	2



## HIGH THERMAL RESISTANCE

(4) (3) (2) (1)

Stability and resistance make the product suitable for sealing elements particularly exposed to the weather. It protects against water and has a thermal resistance suitable for very different climatic ranges: -40 / +120 °C.

## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	-	0,27 mm	11 mil
Adhesion strength on OSB at 90° after 10 minutes	ISO 29862	4,5 N/10 mm	2.6 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	10,0 N/10 mm	5.7 lbf/in
Adhesion strength (average) on membrane in PP after 24 $hours^{(1)}$	ISO 12316-2	25,0 N/50 mm	2.9 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 hours <sup>(2)</sup>	ISO 12317-2	70,0 N/50 mm	8.0 lbf/in
Watertightness	-	compliant	-
Exposure to weather	-	12 months	-
Resistance to temperature	-	-30/+80 °C	-22/+176 °F
Fire resistance rating on plain CLT joint (100 mm) 5 mm joint combined with joint cover board <sup>(*)</sup>	EN 1363-4	EI 90	-
Application temperature <sup>(3)</sup>	-	-10/+35 °C	+14/+95 °F
Storage temperature <sup>(4)</sup>	-	+10/+35 °C	+50/+95 °F
Solvents	-	no	-

(1)Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
(2)Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
(3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(4)</sup>Store the product in a cool, dry place for no more than 6 months.

(\*) For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 10.

## FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

			INVISI BAND 🔨 🛛 200
	Cotton swab	> 106 minutes	
IIGHINESS (E)	Persistent flame	105 minutes 💋	20
INSULATION (I)	Time	> 104 minutes EI 90	
			20

### RELATED PRODUCTS





DEFENCE ADHESIVE page 182

DEFENCE ADHESIVE SPEEDY page 184



DEFENCE ADHESIVE TRASPIR EVO page 186



SPEEDY ROLL page 389



## VERSATILE

Available in 3 sizes to cover standard and non-standard joints. Once in place, it ensures that the type of surface or fastening made on site can be clearly seen.

# PLASTER BAND INOUT

## SPECIAL HIGH-ADHESION TAPE, CAN BE PLASTERED



#### **EXCELLENT ADHESION**

Its excellent adhesion makes it ideal for application on most surfaces, even at low temperatures.

#### **RESISTANT SEPARATION FILM**

Even when applied in tight spaces and corners, the PP liner can be removed without risk of failure.



## CODES AND DIMENSIONS

#### PLASTER BAND IN

	CODE	liner	В	t	т	L	liner	В	L	
		[mm]	[mm]	[mm]	[mm]	[m]	[in]	[in]	[ft]	
	PLASTIN1560	15/60	75	-	75	25	0.6/2.4	3.0	82	6
1	PLASTIN1585	15/85	100	-	100	25	0.6/3.4	4.0	82	4
	PLASTIN15135	15/135	150	-	150	25	0.6/5.3	5.9	82	2
	PLASTIN7520	75	75	20	75	25	3.0	3.0	82	5
2	PLASTIN10020	100	100	20	100	25	3.9	3.9	82	4
	PLASTIN15020	150	150	20	150	25	5.9	5.9	82	2

#### PLASTER BAND OUT

	CODE	liner	В	t	т	L	liner	В	L	
		[mm]	[mm]	[mm]	[mm]	[m]	[in]	[in]	[ft]	
	PLASTOUT1560	15/60	75	-	75	25	0.6/2.4	3.0	82	6
1	PLASTOUT1585	15/88	100	-	100	25	0.6/3.4	4.0	82	4
I	PLASTOUT15135	15/135	150	-	150	25	0.6/5.3	5.9	82	2
	PLASTOUT15185	15/185	200	-	200	25	0.6/7.3	7.9	82	2
	PLASTOUT7520	75	75	20	75	25	3.0	3.0	82	5
-	PLASTOUT10020	100	100	20	100	25	3.9	3.9	82	4
2	PLASTOUT15020	150	150	20	150	25	5.9	5.9	82	2
	PLASTOUT20020	200	200	20	200	25	7.9	7.9	82	2



## ■ FIELDS OF APPLICATION



## RELATED PRODUCTS



PRIMER page 113



BLACK BAND page 144



page 146



MANICA FLEX page 148



### CAN BE PLASTERED

Technical fabric ideal to be subsequently plastered. The pre-cut liner allows for quick and easy installation and an high level of aesthetics due to the possibility of concealing the tape behind claddings or plaster.

## PLASTER BAND IN

### 

- (1)support: 2-layer PP vapour control membrane
- (2) adhesive: acrylic dispersion without solvents
- (3) release liner: easy-release PP film



## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	-	0,5 mm	20 mil
Water vapour transmission (Sd)	-	approx. 22 m	approx. 0.16 US Perm
Watertightness	-	W1	-
Reaction to fire	EN 13501-1	E	-
Adhesion strength on OSB at 90° after 10 minutes	EN ISO 29862	8,5 N/10 mm	4.9 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN ISO 29862	8,5 N/10 mm	4.9 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(1)</sup>	EN ISO 12316-2	16 N/50 mm	1.8 lbf/in
Resistance to temperature	-	-40/+100 °C	-22/+212 °F
Application temperature <sup>(2)</sup>	-	-5/+40 °C	+23/+104 °F
Storage temperature <sup>(3)</sup>	-	+5/+25 °C	+41/+77 °F
Exposure to weather	-	3 months	-
Resistance to heavy rain	-	compliant	-
Resistance to penetration of air	EN 12114	$< 0,1 \text{ m}^{3}/(\text{h}\cdot\text{m}\cdot\text{daPa}^{2/3})$	-
Solvents	-	no	-

(1)Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
(2) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.
(3) Store the product in a cool, dry place for no more than 6 months.

Waste classification (2014/955/EU): 08 04 10.

## 

- (1)support: 2-layer PP vapour control membrane
- $(\mathbf{2})$ adhesive: acrylic dispersion without solvents
- (3) release liner: easy-release PP film



## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	DIN 53855	0,5 mm	20 mil
Water vapour transmission (Sd)	EN 1931	> 10 m	> 0.35 US Perm
Watertightness	EN 13984	W1	-
Reaction to fire	EN 13501-1	E	-
Resistance to temperature	-	-40/+80 °C	-40/+176 °F
Application temperature	-	> +5 °C	> +41 °F
Storage temperature <sup>(1)</sup>	-	+5/+25 °c	+41/+77 °F
Exposure to weather	-	3 months	-
Resistance to heavy rain	EN 1027	≥ 1050 Pa	-
Resistance to penetration of air	EN 1026	$\leq 0,1 \text{ m}^{3}/(\text{h}\cdot\text{m}\cdot\text{daPa}^{2/3})$	-
Solvents	-	no	-

<sup>(1)</sup>Store the product in a cool, dry place for no more than 6 months.

Waste classification (2014/955/EU): 08 04 10.

## PLASTER BAND OUT

#### 

- (1)support: breathable 2-layer PP membrane
- (2) adhesive: acrylic dispersion without solvents
- (3) release liner: easy-release PP film



### TECHNICAL DATA

Properties	standard	value	USC units
Thickness	-	0,5 mm	20 mil
Water vapour transmission (Sd)	-	approx. 2 m	approx. 1.75 US Perm
Watertightness	-	W1	-
Reaction to fire	EN 13501-1	E	-
Adhesion strength on OSB at 90° after 10 minutes	EN ISO 29862	8,5 N/10 mm	4.9 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN ISO 29862	8,5 N/10 mm	4.9 lbf/in
Adhesion strength (average) on membrane in PP after 24 $hours^{(1)}$	EN ISO 12316-2	16 N/50 mm	1.8 lbf/in
Resistance to temperature	-	-40/+100 °C	-22/+212 °F
Application temperature <sup>(2)</sup>	-	-5/+40 °C	+23/+104 °F
Storage temperature <sup>(3)</sup>	-	+5/+25 °C	+41/+77 °F
Exposure to weather	-	12 months	-
Resistance to heavy rain	-	compliant	-
Resistance to penetration of air	EN 12114	$< 0,1 \text{ m}^{3}/(\text{h}\cdot\text{m}\cdot\text{daPa}^{2/3})$	-
Solvents	-	no	-

(1)Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
(2) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.
(3) Store the product in a cool, dry place for no more than 6 months.

Waste classification (2014/955/EU): 08 04 10.

## 

- (1)support: breathable 2-layer PP membrane
- (2) adhesive: acrylic dispersion without solvents
- (3) release liner: easy-release PP film



## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	DIN 53855	0,7 mm	28 mil
Water vapour transmission (Sd)	EN 1931	< 1 m	> 3.5 US Perm
Watertightness	EN 13984	W1	-
Reaction to fire	EN 13501-1	E	-
Resistance to temperature	-	-40/+80 °C	-40/+176 °F
Application temperature	-	+5/+40 °C	+41/+104 °F
Storage temperature <sup>(1)</sup>	-	+5/+25 °c	+41/+77 °F
Exposure to weather	-	3 months	-
Resistance to heavy rain	EN 1027	≥ 1050 Pa	-
Resistance to penetration of air	EN 1026	$\leq 0,1 \text{ m}^3/(\text{h}\cdot\text{m}\cdot\text{daPa}^{2/3})$	-
Solvents	-	no	-

<sup>(1)</sup>Store the product in a cool, dry place for no more than 6 months.

Waste classification (2014/955/EU): 08 04 10.









7 ROLLER









SEALING WITH WINDOW/DOOR ALREADY INSTALLED

















# RECOMMENDATIONS FOR INSTALLATION | PLASTER BAND OUT APPLICATION OF THE TAPE BEFORE INSTALLATION OF THE WINDOW/DOOR FRAME









4 EXPAND BAND, WINDOW BAND









## ■ RECOMMENDATIONS FOR INSTALLATION | PLASTER BAND OUT

SEALING WITH WINDOW/DOOR ALREADY INSTALLED









7 ROLLER









TAPES AND SEALANTS | PLASTER BAND IN|OUT | 97

# PLASTER BAND LITE

# TAPE WITH ADHESIVE MOUNTING STRIP, CAN BE PLASTERED



#### COMPLETE RANGE

Available in several variants to ensure tightness on every installation surface. Also suitable for high thickness values of insulation or cladding due to its width of up to 200 mm.

#### STEAM FLOW REGULATION

Available in two airtight versions for indoor and outdoor use. Indoor it acts as a vapour control layer, outdoor as a breathable layer.



### CODES AND DIMENSIONS

#### PLASTER BAND LITE IN

	CODE	В	t	Т	L	В	L	
		[mm]	[mm]	[mm]	[m]	[in]	[ft]	
	PLAIN7520	75	20	-	25	3.0	82	5
1	PLAIN10020	100	20	-	25	3.9	82	4
I	PLAIN15020	150	20	-	25	5.9	82	2
	PLAIN20020	200	20	-	25	7.9	82	2

Versions without glue are also available on request.

#### PLASTER BAND LITE IN WITH PLASTER GRID

	CODE	В	t	т	L	В	L	
		[mm]	[mm]	[mm]	[m]	[in]	[ft]	
2	PLAINN7020	130 (70 + N)	20	-	30	5.1 (2.8 + N)	98	1
	PLAINN12020	180 (120 + N)	20	-	30	7.1 (4.7 + N)	98	1

#### PLASTER BAND LITE OUT

	CODE	В	t	Т	L	В	L	
		[mm]	[mm]	[mm]	[m]	[in]	[ft]	
	PLAOUT7520	75	20	-	25	3.0	82	5
1	PLAOUT10020	100	20	-	25	3.9	82	4
I	PLAOUT15020	150	20	-	25	5.9	82	2
	PLAOUT20020	200	20	-	25	7.9	82	2

Versions without glue are also available on request.



## ■ FIELDS OF APPLICATION



## RELATED PRODUCTS



PRIMER page 113



BLACK BAND page 144



MANICA PLASTER page 146



MANICA FLEX page 148



### COST-PERFORMANCE

The packaging and the mix of glue and carrier made it possible to obtain a very good product at a low cost.

### CAN BE PLASTERED

Technical fabric ideal for application under plaster. Also available in a version with a plaster grid for indoor use.

## PLASTER BAND LITE IN

#### COMPOSITION

- (1)support: 3-layer PP vapour control membrane
- (2) adhesive: acrylic dispersion without solvents
- (3) release liner: PP film





- (1)plaster grid
- (2) support: 3-layer PP vapour control membrane
- (3) adhesive: acrylic dispersion without solvents
- (4) release liner: PP film



#### TECHNICAL DATA

Properties	standard	value	USC units
Thickness	-	0,5 mm	20 mil
Water vapour transmission (Sd)	EN ISO 12572	≥ 10 m	≤ 0.35 US Perm
Tensile strength MD/CD	EN 12311-1	115/75 N/50 mm	13.13/8.57 lbf/in
Elongation MD/CD	EN 12311-1	≥ 40/≥ 70%	
Watertightness	EN 1928	compliant	
UV-resistant	-	3 months	-
Application temperature	-	+5/+35 °C	+41/+95 °F
Temperature resistance	-	-40/+80 °C	-40/+176 °F
Storage temperature <sup>(1)</sup>	-	+1/+25 °C	+33.8/+77 °F
Solvents	-	no	

<sup>(1)</sup>Store the product in a cool, dry place for no more than 12 months. Waste classification (2014/955/EU): 08 04 10.

## PLASTER BAND LITE OUT

#### **COMPOSITION**

- (1) support: breathable 3-layer PP membrane
- (2) adhesive: acrylic dispersion without solvents
- (3) release liner: easy-release PP film



#### **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness	-	0,5 mm	20 mil
Water vapour transmission (Sd)	EN ISO 12572	≤ 1 m	$\geq$ 3.5 US Perm
Tensile strength	EN 12311-1	290/190 N/50 mm	33/22 lbf/in
Elongation at failure	EN 12311-1	≥ 40/≥ 70%	-
Watertightness	EN 1928	compliant	
UV-resistant	-	3 months	-
Application temperature	-	+5/+35 °C	+41/+95 °F
Temperature resistance	-	-40/+80 °C	-40/+176 °F
Storage temperature <sup>(1)</sup>	-	+5/+25 °C	+41/+77 °F
Solvents	-	no	-

<sup>(1)</sup>Store the product in a cool, dry place for no more than 12 months. Waste classification (2014/955/EU): 08 04 10.



## BREATHABLE

The product is made of a breathable membrane with the addition of an adhesive band. This also makes the product airtight and watertight.

### **TECHNICAL FABRIC**

The surface is designed for places which need subsequent smoothing with plaster.

## RECOMMENDATIONS FOR INSTALLATION | PLASTER BAND LITE IN

APPLICATION OF THE TAPE BEFORE INSTALLATION OF THE WINDOW/DOOR FRAME









#### SEALING WITH WINDOW/DOOR ALREADY INSTALLED





3 MEMBRANE GLUE





## RECOMMENDATIONS FOR INSTALLATION | PLASTER BAND LITE OUT

APPLICATION OF THE TAPE BEFORE INSTALLATION OF THE WINDOW/DOOR FRAME







3 OUTSIDE GLUE

### SEALING WITH WINDOW/DOOR ALREADY INSTALLED





3 OUTSIDE GLUE





## **MULTI BAND**

## SPECIAL HIGH-ADHESION TAPE, CAN BE PLASTERED

#### **EXCELLENT ADHESION**

Its excellent adhesion makes it ideal for application on most surfaces, even at low temperatures.

#### CAN BE PLASTERED

Technical fabric perfect for subsequent plastering, ensuring excellent visual appeal by allowing the tape to be concealed behind claddings and plaster.



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DIN 4108-7



#### 

- (1)support: breathable 2-layer PP membrane
- (2) adhesive: acrylic dispersion without solvents
- (3) release liner: silicone coated paper

## **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness	-	0,6 mm	24 mil
Tensile strength	EN ISO 29864	44,0 N/10 mm	25.1 lbf/in
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	5,0 N/10 mm	2.9 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	9,0 N/10 mm	5.1 lbf/in
Adhesion strength (average) on membrane in PP after 24 $hours^{\left(1\right)}$	EN 12316-2	15,0 N/50 mm	1.7 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 $hours^{(1)}$	EN 12317-2	150,0 N/50 mm	17.1 lbf/in
Water vapour transmission (Sd)	EN 1931	< 1 m	> 3.5 US Perm
Application temperature <sup>(3)</sup>	-	> -10 °C	> +14 °F
Resistance to temperature	-	-40/+100 °C	-40/+212 °F
Storage temperature <sup>(3)</sup>	-	+5/+25 °C	+41/+77 °F
Solvents	-	no	-

(1)Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
(2)Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
(3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(4)</sup>Store the product in a cool, dry place for no more than 12 months

Waste classification (2014/955/EU): 08 04 10.

## CODES AND DIMENSIONS

CODE	liner	В	L	liner	В	L	
	[mm]	[mm]	[m]	[in]	[in]	[ft]	
MULTI60	60	60	25	2.4	2.4	82	10

## ■ FIELDS OF APPLICATION









## RELATED PRODUCTS



PRIMER SPRAY page 112



PLASTER BAND IN page 90



PLASTER BAND OUT page 90



PLASTER BAND LITE page 98



### UNIVERSAL

Excellent for sealing the membranes overlapping both inside and outside. Due to the black non-woven fabric support, it is not visible behind discontinuous cladding.

### SAFE

Thanks to its special composition, it prevents the uncontrolled passage of air, ensuring constantly perfect air and wind tightness.

## MULTI BAND UV

## SPECIAL UV-RESISTANT HIGH-ADHESION TAPE



100% UV RESISTANCE DURABILITY

CAN BE PLASTERED

#### MULTIFUNCTIONAL AND SOFT

Extremely malleable, it adheres perfectly to the most difficult nodes, sealing them with ease, as if it were a fabric.

Easy to apply, it is used in very different contexts, both in terms of climate and construction method. It seals any external and internal element, in hot and cold climates, on opaque and non-opaque envelopes. It completes the sealing and fire protection requirements of façades.

#### MONOLITHIC AND FIRE RESISTANT

The B-s1,d0 fire reaction and flame retardant capacity according to EN 13501-1 make it one of the best performing tapes on the market. With its monolithic structure, it provides excellent weather and chemical resistance on the building elements to which it is applied.

#### PERMANENT UV STABILITY

Applied outdoors, it has permanent stability and UV resistance. The aesthetic result on the façade is at its best when combined with monolithic membranes from the TRASPIR EVO UV family.



#### COMPOSITION

- (1) **support**: 3-layer monolithic membrane highly resistant to UV rays
- (2) glue: acrylic dispersion without solvents
- (3) release liner: PP film

### CODES AND DIMENSIONS





## CAN BE PLASTERED

The tape fabric can be plastered in both exterior and interior applications thanks to the non-woven top surface.

## TECHNICAL DATA

Properties	standard	value	USC units
Thickness	EN 1849-2	0,7 mm	28 mil
Water vapour transmission (Sd)	EN 1849-2	0,2 m	17.5 US Perm
Watertightness	EN 1928	compliant	-
Tensile strength MD/CD <sup>(*)</sup>	EN 12311-1	150/110 N/50 mm	17/13 lb/in
Elongation MD/CD <sup>(*)</sup>	EN 12311-1	90/90 %	-
Weathering without final cladding	-	12 months	-
UV stability with joints up to 30 mm wide exposing no more than 20% of the surface <sup>(2)</sup>	-	permanent	-
Reaction to fire <sup>(*)</sup>	EN 13501-1	B-s1,d0	-
Resistance to temperature	-	-30/+120 °C	-22/248 °F
Application temperature	-	+5/+30 °C	41/95 °F
Storage temperature <sup>(1)</sup>	-	+5/+35 °C	41/77 °F
Solvents	-	no	_

(\*)Membrane support properties.

<sup>(1)</sup>Store the product in a cool, dry place for no more than 12 months. <sup>(2)</sup>The membrane is not suitable for standing water for long periods.

#### **TRASPIR EVO UV ADHESIVE** SELF-ADHESIVE BREATHABLE MONOLITHIC MEMBRANE

## **RESISTANT TO UV RAYS**

B-s1,dO





- It resists fire and protects the building
- Permanent UV stability
- Waterproof, vapour permeable

CODE	Н	L	А	Н	L	Α	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TUVA250	1,45	50	72,5	4′91/8″	164	780	16
TUVAS250	0,36	50	18	1′21/8″	164	194	30

See the product on page 196.



### SPECIAL GLUE

The glue is formulated specifically to ensure breathability while preserving the membrane's properties. The special glue provides long-term performance, UV stability and water resistance, offering optimal adhesion at both high and low temperatures.

## FRONT BAND UV 210

## UNIVERSAL SINGLE-SIDED TAPE, HIGHLY RESISTANT TO UV RAYS



#### AESTHETICS

Support made of monolithic TRASPIR EVO UV 210 membrane for excellent aesthetic performance even when applied with TRASPIR EVO 300.

#### REACTION TO FIRE B-s1,d0

Self-extinguishing tape that does not spread the flame in case of fire, contributing to the passive protection of the structure.

### COMPOSITION

- (1) support: TRASPIR EVO UV 210
- (2) glue: acrylic dispersion without solvents
- (3) release liner: PP film



## CODES AND DIMENSIONS

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
FRONTUV75	75	20	3.0	66	8



## FIRE PROTECTION

The combination with TRASPIR EVO UV 210 or TRASPIR EVO 300 offers a complete B-s1,d0 tested system.

### TEMPERATURE RESISTANCE UP TO 100°C

The product carrier is made from a new-generation monolithic membrane, ensuring high levels of temperature and UV stability.
# **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness <sup>(1)</sup>	DIN EN 1942	0,5 mm	20 mil
Adhesion strength on OSB at 90° after 10 minutes	EN 29862	5,0 N/10 mm	2.9 lbf/in
Adhesion strength on OSB at 180° after 10 minutes	EN 29862	8,0 N/10 mm	4.6 lbf/in
Adhesion strength (average) on membrane in PP after 24 hours <sup>(2)</sup>	EN 12316-2	40,0 N/50 mm	4.6 lbf/in
Shear adhesion strength of the joint on membrane in PP after 24 $hours^{(3)}$	EN 12317-2	145,0 N/50 mm	16.6 lbf/in
Adhesion strength on steel at 180°	EN ISO 29862	≥ 30 N/25 mm	≥ 6.85 lbf/in
Tensile strength MD/CD <sup>(4)</sup>	EN 12311-1	300/200 N/50 mm	34 /23 lbf/in
Elongation MD/CD <sup>(4)</sup>	EN 12311-1	25/25 %	-
Water vapour transmission (Sd) <sup>(4)</sup>	EN 1931	0,1 m	35 US Perm
Watertightness	-	compliant	-
UV stability with joints up to 50 mm wide exposing no more than 40% of the surface		permanent	-
UV resistance without final coating <sup>(5)</sup>	EN 13859-1/2	10000h (> 12 months)	-
Reaction to fire	EN 13501-1	class B-s1,d0	-
Application temperature <sup>(6)</sup>	-	+5/+40 °C	+41/+104 °F
Resistance to temperature	-	-30/+100 °C	-22/+212 °F
Storage temperature <sup>(7)</sup>	-	+5/+25 °C	+41/+77 °F
Solvents	-	no	-

(1)The thickness and stiffness of the tape should be taken into account when creating corner details.
(2)Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
(3)Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
(4)Membrane support properties.
(5)According to DTU 31.4 (France) 10000h of UV ageing equates to a maximum exposure period of 14 months during the construction phase.
(6)The absence of condensation or frost on the surface must be guaranteed.
(7)Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

# FIELDS OF APPLICATION





#### FIRE PROTECTION



TRASPIR EVO UV 210 page 272



FIRE FOAM page 128



FIRE SEALING page 130 -132

# **TERRA BAND UV**

**BUTYL ADHESIVE TAPE** 





#### DECKS AND FACADES

Ideal for protecting joists from water and UV rays. Can be used for both patios and façades, protecting and extending the life of the wooden joists.

#### PERMANENT UV STABILITY

The reinforced aluminium support and butyl formulation ensure excellent durability even when subjected to thermal stress and continuous UV exposure.



### COMPOSITION

(1) **support**: UV-stable anthracite-coloured reinforced aluminium film

(2) glue: grey adhesive butyl compound

(3) release liner: PE film

### **TECHNICAL DATA**

Properties	standard	value	USC units
Thickness	-	8 mm	31 mil
Initial Tack +23/+5 °C	ASTM D 2979	7,2/13 N	1.6/2.9 lbf
Adhesion strength on steel at 180°	ASTM D 1000	20 N/10 mm	11.42 lbf/in
Vertical sliding	ISO 7390	0 mm	-
Tensile strength MD/CD	EN 12311-1	185/200 N/50 mm	21.13/22.84 lbf/in
Elongation MD/CD	EN 12311-1	10/20 %	-
Water vapour resistance factor (µ)	UNI EN 1931	2720000	10880 MN·s/g
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-40/+100 °C	-40/+212°F
Application temperature <sup>(1)</sup>	-	+0/+40 °C	+32/104 °F
Watertightness	-	compliant	-
UV-resistant	-	permanent	-
Storage temperature <sup>(2)</sup>	-	+5/+40 °C	+41/104 °F
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Solvents	-	no	-

(1) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(2)</sup>Store the product in a cool, dry place for no more than 12 months.

🔟 Waste classification (2014/955/EU): 08 04 10.

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
TERRAUV75	75	10	3.0	33	8
TERRAUV100	100	10	3.9	33	6
TERRAUV200	200	10	7.9	33	4
TERRAUV400	400	10	15.8	33	2

# ■ FIELDS OF APPLICATION



# PRODUCT RANGE





TERRAUV75

TERRAUV100





TERRAUV200

TERRAUV400



# SELF-SEALING AND SHAPEABLE

Soft and easily workable tape. The mix seals over the perforations while remaining completely impermeable to water, making it also ideal for sealing the base plate.

#### STRONG

Thanks to the reinforced aluminium film, it has outstanding mechanical properties and is tear-resistant.

# **PRIMER SPRAY**

UNIVERSAL SPRAY PRIMER FOR ACRYLIC ADHESIVE TAPES

#### INSTANTANEOUS

Thanks to spray can application and the adjustable nozzle, no brushes or other equipment is needed for installation.

#### HIGH PERFORMANCE

At a distance of approx. 30 - 50 cm from the surface approx. 6 cm of gluing area is achieved. Ideal for use with Rothoblaas tapes.

# **TECHNICAL DATA**

Properties	value	USC units
Composition	mix of thermoplastic adhesive and solvent	-
Time required for drying 20 °C/50 %RH	1-2 minutes	-
Application temperature (cartridge, ambient and support)	+15/+25°C	+59/+77 °F
Temperature resistance after drying	-10/+100°C	+14/+212 °F
French VOC classification	A+	-
Transport temperature	+5/+50°C	+41/+122 °F
Storage temperature <sup>(1)</sup>	+15/+35 °C	+59/+95 °F

<sup>(1)</sup>Store the product in a dry place and check the date of manufacture on the cartridge.

Waste classification (2014/955/EU): 16 05 04.

Aerosol 1 - H222, H229.

# CODES AND DIMENSIONS

CODE	content	content	
	[ml]	[US fl oz]	
PRIMERSPRAY	750	25.36	12



# FAST INSTALLATION

It allows smoothing of even the roughest and most fibrous surfaces to facilitate the application of tapes or sealants.

#### ADJUSTABLE

Adjustable nozzle for a more precise application adapted to each situation. Simply turn the nozzle to increase or decrease the spray area.











# UNIVERSAL PRIMER FOR ACRYLIC ADHESIVE TAPES



#### LOW PROFILE

The solvent-free acrylic dispersion mix ensures its transparency. **PRACTICAL** 

Ready to use, compensates for irregularities on rough surfaces and guarantees fast drying.



# **TECHNICAL DATA**

Properties	value	USC units
Composition	acrylic dispersion without solvents	-
Density	approx. 1,02 g/ml	8.51 lb/gal
Viscosity	approx. 1700 mPa·s	-
Time required for drying 20 °C/50 %RH	approx. 15 min	-
Application temperature (cartridge, ambient and support)	+5/+30 °C	+41/+86 °F
Temperature resistance after drying	-30/+80 °C	-22/+176 °F
Emicode (GEV test procedure)	EC1 plus	-
French VOC classification	A+	-
Transport temperature	-26/+35 °C	-14.8/+95 °F
Storage temperature <sup>(1)</sup>	+15/+25 °C	+59/+77 °F

 $^{(1)}$ Store the product in a dry place and check the date of manufacture on the cartridge.

Waste classification (2014/955/EU): 08 04 10.

EUH208 Contains CAS 55965-84-9 (3:1), CAS 2634-33-5. May produce allergic reactions; EUH210 Safety data sheet available on request.

# CODES AND DIMENSIONS

CODE	content	yield	content	yield	
	[ml]	[mL/m <sup>2</sup> ]	[US fl oz]	[US fl oz/ft <sup>2</sup> ]	
PRIMER	1000	100/200	33.81	0.32/0.63	6



# PACKAGING

The new packaging allows immediate installation without the need for additional tools.

# **RE-CLOSABLE**

The cap perfectly seals the packaging, ensuring a longer product life and preventing accidental leaks during transport.

# DOORS, WINDOWS AND STRUCTURE

To ensure its effectiveness, a window/door must always be installed taking into account the principle of continuity of the wind and air tightness levels (see introduction on page 14). An improperly installed high-performance window or door frame will compromise the overall performance of the system and will not meet the needs of the end user.



THREE LEVELS OF PROTECTION

The three level method, which is used often in most European countries, identifies the airtightness, windtightness and thermal-acoustic insulation levels for proper placement of doors and windows. To obtain maximum performance, it is important to take care in all design stages and Rothoblaas offers specific solutions for each of the three levels.



protection against weather. If not properly treated, it can lead to problems of infiltration and accumulation of stagnant water at the bottom of the window hole.

Rothoblaas offers: START BAND, PROTECT, BY-TUM BAND, FLEXI BAND, FLEXI BAND UV, FA-CADE BAND UV, SMART BAND, PLASTER BAND OUT, PLASTER BAND LITE, MANICA PLASTER, TERRA BAND, ALU BUTYL BAND, BLACK BAND, MS SEAL, MULTI BAND, FIRE SEALING ACRYLIC, FIRE SEALING SILICONE thermal-acoustic performance and mechanical fixing. When selecting products, it is important to remember that an effective noise reduction solution does not always equate to good thermal insulation.

Rothoblaas offers: EXPAND BAND, WINDOW BAND, SMART FOAM, HERMETIC FOAM, FIRE FOAM

The most internal level must be airtight. Its function is to prevent the passage of vapour laden air, which could create condensation in the joints and mould on the surface.

Rothoblaas offers: SEAL BAND, FLEXI BAND, SMART BAND, PLASTER BAND IN, PLASTER BAND LITE, MANICA PLASTER, BLACK BAND, MS SEAL, MULTI BAND, FIRE SEALING ACRYLIC, FIRE SEALING SILICONE

#### PRIMARY JOINT AND SECONDARY JOINT

#### INSTALLATION WITHOUT COUNTERFRAME



#### INSTALLATION WITH COUNTERFRAME



The **PRIMARY JOINT** is the first installation node between the structure and the counterframe. The **SECONDARY JOINT** is the junction between the counterframe and the frame.



Absence of all three levels, the probability of condensation and water infiltration in the structure is high.

There is a high risk of humidity-laden internal air penetrating the joints and forming condensation in the intermediate level. The inner protection level is sealed, the outer level is not: the joint is not effectively protected against wind and rain from outside. The joint performs flawlessly from an acoustic and thermo-hygrometric point of view.

#### FOCUS: THERMAL AND ACOUSTIC INSULATION LEVEL

DIN 18542:2020 introduced two new classes MF1 and MF2 in addition to the existing BG1/BG2/BGR classes. These two classes have been added for the purpose of defining "Multifunctional" tapes, for triple protection. A single tape that guarantees: wind tightness, thermal-acoustic insulation and airtightness. These two classes combine the properties of BG1+BGR for MF1 and BG2+BGR for MF2. The main difference between these new classes and the BG1 and BG2 classes is the inclusion of a thermal insulation test, which the previous classes lacked. Hence, the multifunctional products must be laid for the entire depth of the reference joint.



**MF1/BG1:** According to DIN 18542, type MF1 and BG1 tapes are suitable for outdoor use even when exposed to UV rays. They guarantee watertightness under a pressure of at least 600 Pa.



**MF2/BG2:** According to DIN 18542, type MF2 and BG2 tapes are suitable for outdoor use if not directly exposed to UV rays. They guarantee watertightness under a pressure of at least 300 Pa.



**BGR:** according to DIN 18542, BGR tapes are not suitable for outdoor use but are impermeable to air and water vapour. They also provide greater protection against condensation compared to BG1 and BG2. **MF1** and **MF2** share the same properties and can therefore be used in place of BGR.

### THE WINDOW AND DOOR INSTALLATION PLAN AND ITS EFFECTS

Several factors determine this aspect: ranging from the building techniques typically used in the place where the structure is built to the client's habits and through the selected type of construction. It is important to consider that the selected door/ window installation plan impacts fluctuations in temperature in the construction node, and therefore the overall efficacy of the installation. It is advisable to ensure continuity with the insulating layer, if present, in the wall.

#### INTERNAL FLUSH INSTALLATION

Some traditional local systems prefer it because it allows the full opening of the window/door. However, this is not an optimal solution from a thermal point of view, as the window/door is moved inwards and the risk of low internal surface temperatures is greater. In order to avoid thermal bridges in buildings with external insulation, it is recommended that the side walls of the window hole are also insulated to join them to the external insulation.



2

thermal dispersion

#### CENTRAL FLUSH INSTALLATION

It is the most common in traditional building systems. It is advisable to also insulate the side walls of the window hole in order to join them to the external insulation and avoid thermal bridges. For frame structures with an insulated gap, this solution is also suitable. The mechanical connection of the window/ door is made directly to the load-bearing structure of the building.

#### EXTERNAL FLUSH INSTALLATION

The external insulation must cover the fixed frame of the window/door and the subframe, if present, ensuring excellent internal surface temperatures. The mechanical connection of the window/door is made directly to the load-bearing structure of the building.



#### INSTALLATION IN THE INSULATION LAYER

This solution is adopted in the most high-performance constructions. It allows the reduction of the linear thermal bridge value. It requires more care when installing the window/door and greater insulation thickness.

The mechanical connection of the window/door frame to the structure can be made by means of an appropriately L or Z-shaped timber counterframe or by means of metal brackets. This configuration is particularly complex to design and implement. Hence, it is rarely used.







# **EXPAND BAND** SELF-EXPANDING SEALING TAPE



EXPANDING TAPE SOUND PROTECTION



#### PERMANENT ELASTIC EXPANSION

The tape's self-expansion remains elastic and unchanged over time, providing protection from water, dust and wind.

#### SAFETY

COMPOSITION

The modified polyurethane foam has passed the most stringent tests on harmful emissions, ensuring safe installation even indoors.



elastic polyurethane foam with special film additives

glue: assembly adhesive

- 1 elastic polyurethane foam with additives
- (2) glue: assembly adhesive
- (3) release liner: silicone coated paper
- CODES AND DIMENSIONS

#### EXPAND BAND

CODE	В		s	L	В	S		L	
	[mm]	[m	ım]	[m]	[in]	[m	il]	[ft]	
EXPAND1014	10	1	4	13	0.4	39	157	43	48
EXPAND1514	15	1	4	13	0.6	39	157	43	32
EXPAND1549	15	4	9	8	0.6	157	354	26	32
EXPAND15615	15	6	15	6	0.6	236	591	20	32
EXPAND20920	20	9	20	4	0.8	354	787	13	24
EXPAND40615	40	6	15	8	1.6	236	591	26	12
EXPAND60615	60	6	15	8	2.4	236	591	26	8

(1

(2)

The maximum thickness does not coincide with the maximum expansion but rather indicates the limit for optimal product performance.

#### EXPAND BAND EVO

[mm] [mm] [m] [in] [mil] [ft]	ODE	В	S	L	В	S	L	
		[mm]	[mm]	[m]	[in]	[mil]	[ft]	
<b>EXPANDEVO1514</b> 15 1 4 13 0.6 39 157 43 32	(PANDEVO1514	15	1 4	13	0.6	39 157	43	32

The maximum thickness does not coincide with the maximum expansion but rather indicates the limit for optimal product performance





# **TECHNICAL DATA**

Properties	standard	value	USC units
Classification	DIN 18542	BG1	-
Resistance to penetration of air	EN 12114	$\alpha \leq 1,0 \text{ m}^3/(h \cdot m \cdot (daPa)^n$	-
Driving rain test	EN 1027	≥ 600 Pa	-
Resistance to UV and weathering	DIN 18542	compliant with class BG1	
Compatibility with other building materials	DIN 18542	compliant with class BG1	-
Water vapour transmission (Sd)	EN ISO 12572	< 0,5 m	> 7 US Perm
Possible to fire	DIN 4102-1	class B1	-
Reaction to fire	EN 13501-1	npd	-
Fire resistance rating on plain CLT joint (200 mm), 2 mm joint, double strip <sup>(*)</sup>	EN 1363-4	EI120	-
Fire resistance rating on plain CLT joint (100 mm), 3 mm joint, double strip <sup>(*)</sup>	EN 1363-4	E190	-
Fire resistance rating on half-timber CLT joint (200 mm), 2 mm joint, double strip <sup>(*)</sup>	EN 1363-4	EI120	-
Thermal conductivity (λ)	EN 12667	≤ 0,043 W/(m·K)	≤ 0.025 BTU/h·ft·°F
Resistance to temperature	DIN 18542	-30/+90 °C	-22/+194 °F
Emicode (GEV test procedure)	-	EC1 plus	-
Application temperature	-	≥ +5 °C	≥ +41 °F
Storage temperature <sup>(1)</sup>	-	+1/+20 °C	+33.8/+68 °F

<sup>(1)</sup>Store the product in a dry, covered location for no more than 12 months.

(\*) For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 17 02 03.

#### FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

	Cotton swab	106 minutes	
HGHTNESS (E)	Persistent flame	> 106 minutes	
INSULATION (I)	Time	> 106 minutes	EI 90

TIGHTNESS (E)	Cotton swab	160 minutos	
	Persistent flame	100 minutes	
INSULATION (I)	Time	160 minutes	EI 120





#### EVO VERSION

The EVO version not only reduces waste and installation time because it has no release liner, but is also equipped with a special film allowing its shape to be maintained without automatically self-expanding when rolled up.

#### SAFE PACKAGING

Supplied with a plastic core to prevent water and moisture absorption during construction, which could cause unwanted swelling.

# WINDOW BAND

# SELF-EXPANDING SEALING TAPE FOR DOORS/WINDOWS

#### TRIPLE PROTECTION

It seals the joints of doors and windows from air and heavy rain while maintaining the thermal-acoustic properties over the entire depth.

#### SELF-EXPANDING

Seals the cracks, adapting to the surface. Ensures air and water tightness, serving as a vapour control membrane.



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UNI 11673

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DIN 18542



#### **COMPOSITION**

(1) elastic polyurethane foam with additives

#### CODES AND DIMENSIONS

CODE	В		s	L	В	S		L	
	[mm]	[	[mm]	[m]	[in]	[m	il]	[ft]	
WINDOW56411	56	4	9/11(*)	16,5	2.2	157	354	54	5
WINDOW74411	74	4	9/11(*)	16,5	2.9	157	354	54	4
WINDOW56618	56	6	15/18(*)	11,7	2.2	236	591	38	5
WINDOW74618	74	6	15/18(*)	11,7	2.9	236	591	38	4
WINDOW561536	56	15	30/36(*)	7,0	2.2	591	1181	23	5
WINDOW741536	74	15	30/36(*)	7,0	2.9	591	1181	23	4

(\*)The maximum thickness does not coincide with the maximum expansion but rather indicates the limit for optimal product performance (MF1/MF2).



# FAST INSTALLATION

Significant time savings during assembly: all three levels can be sealed with a single product, eliminating the need for additional products.

#### PERFORMING MF1

Compliant with EnEV and RAL requirements, also guarantees a high level of thermal and acoustic insulation.

EC1 Covernies

D

DIN 18542

# **TECHNICAL DATA**

Properties	standard	value	USC units
Classification	DIN 18542	MF1 (BG1/BGR)	-
Airtightness	EN 12114	$\alpha \leq 1.0 \text{ m}^3/(h \cdot m \cdot (dPa)^{2/3})$	-
Tightness in heavy rain	EN 1027	≥ 600 Pa	-
Resistance to UV and weathering	DIN 18542	compliant with class MF1	-
Compatibility with other building materials	DIN 18542	compliant with class MF1	-
Variable water vapour resistance factor (µ)	EN ISO 12572	approx. 10/47	-
Reaction to fire	DIN 4102-1	class B1	-
Soundproofing of joints $R_{S,w(ift)}$	EN ISO 10140-1 EN ISO 10140-2 EN ISO 717-1	10 mm: ≥ 59 (-2; -3) db	-
Thermal conductivity (λ)	EN 12667	≤ 0,050 W/(m·K)	≤ 0.029 BTU/h·ft·°F
Resistance to temperature	-	-20/+80 °C	-4/+176 °F
Application temperature <sup>(1)</sup>	-	+5/+30 °C	+41/+86 °F
Storage temperature <sup>(2)</sup>	-	+1/+20 °C	+33.8/+68 °F
French VOC classification	ISO 16000	A+	-
EMICODE (GEV test procedure)	-	EC1 plus	-

<sup>(1)</sup>It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. <sup>(2)</sup>Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 17 02 03.

# FIELDS OF APPLICATION



### RELATED PRODUCTS



CUTTER page 394



WINBAG page 393



KOMPRI CLAMP page 395

TOOLS AND MACHINES, everything you need to work in best conditions on site. Discover them on our website or ask your trusted agent for the catalogue. www.rothoblaas.com



# SEAL WITH FOAM

Polyurethane foam is a chemical sealant. Its main functions are to waterproof, insulate and seal. It is commonly used in installation of windows and doors, to fill in cracks or air voids in construction, or to attach different elements to avoid infiltration and passage of air.

### RECOMMENDATIONS WHEN SEALING WITH FOAM

The biggest advantage offered by polyurethane foam is its ability to penetrate and fill openings, ceilings, hollow spaces, holes and all situations in which a sheet of material cannot be used.

**Note** It is always advisable to have the correct Personal Protective Equipment (PPE) and to consult the technical data sheet and safety data sheet before starting the application.



The substrates must be resistant, clean, free of oil and grease, dust and dirt in general. Foam expands; fasten the support materials to prevent deformation and movement.

1.



Shake the can energetically at least 15-20 times before using, keeping it horizontal and repeating this operation after the processing intervals, if any.



To be able to obtain a uniform cell structure, it is important to moisten the surfaces. When more than one layer of foam is required, spray the surface of each layer before applying the next one. We recommend using about 1 dl of water each can.



Caution: do not fill the entire cavity because foam is self-expanding and increases its volume before it fully hardens. So, considering post expansion, apply only the necessary amount.



For optimal performance work at an ambient temperature of approximately +20°. Tip: Immerse the can in warm or cool water to raise or lower the temperature of the mix.



Before inserting the can in the gun (CODE FLYFOAM), check that there is no foam residue from the last use. The guns are equipped with a specific valve that regulates the extrusion pressure, to dose the foam precisely.



Any surplus hardened foam can be cut off with a cutter or sanded down with sandpaper. All our foams can be cut.

7.



After use, carefully eliminate all foam residue from the gun. If it hardens inside, it could become unusable. The cleaner (CODE FLY-CLEAN) is effective until the foam has hardened, after which the residues can only be removed mechanically.



Also remember to clean the inside of the gun. After shaking FLYCLEAN vigorously, attach the cleaner to the gun and extrude the product until all the polyurethane foam is cleared out.

# SMART FOAM

# GENERAL PURPOSE FOAM SEALANT

#### VERY LOW EMISSIONS

Compatibility for indoor use tested and certified by EC1 plus.

#### CONTROLLED EXPANSION

The special formula controls the foam's expansion post-application, preventing excessive pressure on the glued elements.



# **TECHNICAL DATA**

Properties	standard	value	USC units
Film formation time 23 °C / 50% RH <sup>(1)</sup>	-	≤ 10 min	-
Cutting time 23 °C / 50% RH <sup>(1)</sup>	EN 17333-3	≤ 40 min	-
Time required for complete hardening 23 $^\circ C$ / 50% $\mathrm{RH^{(1)}}$	-	24 h	-
Temperature resistance after hardening	-	-40/+90 °C	-40/+194 °F
Application temperature (cartridge)	-	+15/+30 °C	+59/+86 °F
Application temperature (ambient and support)	-	+5/+30 °C	+41/+86 °F
Thermal conductivity (λ)	-	0,036 W/(m·K)	0.021 BTU/h·ft·°F
Deaction to fire	DIN 4102-1	class B3	-
Reaction to fire	EN 13501-1	F	-
Emicode	GEV test procedure	EC1 plus	-
French VOC classification	ISO 16000	A+	-
Storage temperature <sup>(2)</sup>	-	+5/+30 °C	+41/+86 °F
Transport temperature	-	+0/+35 °C	+32/+95 °F

(1) The data expressed may vary depending on the thickness of the product applied and the specific installation conditions: temperature, humidity, ventilation, absor-

<sup>(2)</sup>Store the product in a vertical position in a dry, covered location. Check the date of manufacturing on the cartridge.

Waste classification (2014/955/EU): 16 05 04.

Aerosol 1. Acute Tox. 4.Skin Irrit. 2. Eye Irrit. 2.Resp. Sens. 1. Skin Sens. 1. Carc. 2. STOT SE 3. STOT RE 2

# CODES AND DIMENSIONS

CODE	content	yield	content	yield	cartridge	version	
	[ml]	[L]	[US fl oz]	[US gal]			
SMARTFOAM	750	40	25.36	10.57	aluminium	gun	12



### PRICE-QUALITY RATIO

It represents a good compromise between performance, elasticity and price, guaranteeing adhesion and tightness.

#### UNIVERSAL

Multipurpose solution for filling voids such as joints, gaps around pipes and spaces in general.



# HERMETIC FOAM

# HIGH PERFORMING SOUNDPROOFING SEALING FOAM

#### CERTIFIED NOISE REDUCTION

Up to 63 dB noise reduction, certified by the IFT Rosenheim institution (ISO 10140-1).

#### AIRTIGHT EVEN AFTER TRIMMING

Waterproof and airtight, even if trimmed after hardening, thanks to the closed-cell structure.



GLOVES

LOW EXPANSION SOUND PROTECTION

ELASTIC

# CODES AND DIMENSIONS

CODE	content	yield	content	yield	colour	cartridge	
	[ml]	[L]	[US fl oz]	[US gal]			
HERFOAM	750	40	25.36	10.57	white	aluminium	12
			^				
CODE	content	yield	content	yield	colour	cartridge	
	[ml]	[L]	[US fl oz]	[US gal]			
HERFOAMB2	750	35	25.36	8.45	white	aluminium	12



# EMICODE EC1 PLUS

Its low VOC content and very low emissions also make this foam perfect for indoor use.

# HIGH ELASTICITY AND MINIMAL POST-EXPANSION

Thanks to its composition, it remains elastic and deformable over time, compensating for the movements of the timber and differential deformation of the building materials.

■ FIELDS OF APPLICATION | HERMETIC FOAM





# THERMAL-ACOUSTIC INSULATION OF DOORS/WINDOWS

Doors and windows must be installed taking into account the three levels of protection: wind tightness, thermal-acoustic insulation and airtightness.

HERMETIC FOAM is ideal for providing the intermediate level of protection, offering excellent soundproofing and air resistance. Its high elasticity and minimal post-expansion makes it perfect for sealing around windows and linear joints.



# RELATED PRODUCTS



FLY FDAM page 399



FDAM CLEANER page 399





CUTTER page 394

# ■ TECHNICAL DATA | HERMETIC FOAM

Properties	standard	value	USC units
Post expansion		dry kerb: 6%	-
Post expansion	MIT IUI	wet kerb: 23%	-
Yield	-	40 dm <sup>3</sup>	-
Elongation at failure	EN ISO 1798	> 40%	-
Tensile strength	FEICA OCF TM 1018	0,07 MPa	-
Film formation time 23 °C / 50% RH	-	6 - 10 min	-
Cutting time 23 °C / 50% RH	-	20 - 40 min	-
Time required for complete hardening 23 °C / 50% RH	-	60 min	-
Temperature resistance after hardening	-	-40/+90 °C	-40/+194 °F
Application temperature (cartridge, ambient and support)	-	+5/+35 °C	+41/+95 °F
Thermal conductivity $(\lambda)$	FEICA TM1020/ EN 12667	0,030 - 0,035 W/(m·K)	0.017 - 0.02 BTU/h·ft·°F
Acoustic insulation of joints P. (ift)	EN ISO 10140-1	10 mm: ≥ 63 (-1;-5) dB	-
Acoustic insulation of joints (K <sub>S,w</sub> (itt)	EN ISO 717-1	20 mm: ≥ 63 (-1;-5) dB	-
Resistance to penetration of air (ift)	EN 12114	20 mm: a ≤ 0,1 m <sup>3</sup> / (m·h·daPa <sup>2/3</sup> ) at 1050 Pa	-
Water vapour resistance factor (µ)	EN 12086	20	-
Popular to fire	DIN 4102-1	class B3	-
Reaction to fire	EN 13501-1	class F	-
Emicode	GEV test procedure	EC1 plus	-
French VOC classification	ISO 16000	A+	-
Storage temperature <sup>(1)</sup>	-	+15/+25 °C	+59/+77 °F
Transport temperature	-	0/+35 °C	+32/+95 °F

<sup>(1)</sup>Store the product in a vertical position in a dry, covered location. Check the date of manufacturing on the cartridge.

Waste classification (2014/955/EU): 16 05 04 full or partially empty cartridge. Aerosol 1. Aerosol 3 Carc. 2 Acute Tox.4 STOT RE 2 Eye Irrit. 2 Skin Irrit. 2 STOT SE 3 Resp. Sens. 1 Skin Sens. 1

# ■ TECHNICAL DATA | HERMETIC FOAM B2

Properties	standard	value	USC units
Post expansion	-	low	-
Yield	-	35 dm <sup>3</sup>	-
Density	-	15-20 kg/m <sup>3</sup>	-
Elasticity after complete hardening	EN 17333-4	<u>+</u> 15%	-
Tensile strength	FEICA OCF TM 1018	0,07 MPa	-
Film formation time 20°C/65% RH	-	6-8 min	-
Cutting time 23 °C / 50% RH	-	15-20 min	-
Time required for complete hardening 23 °C/50% RH		60 min	-
Temperature resistance after hardening	-	-40/+80 °C	-40/+176 °F
Application temperature (cartridge, ambient and support)	-	+5/+35 °C	+41/+95 °F
Thermal conductivity (λ)	EN 12667	approx. 0,035 W/mK	-
Water vapour resistance factor (µ)	EN ISO 12572	12,4	-
Departies to five	EN 13501-1	class E	-
Reaction to fire	DIN 4102-1	class B2	-
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Storage temperature <sup>(1)</sup>	-	+15/+25 °C	+59/+77 °F
Transport temperature	-	+0/+35 °C	+32/+95 °F

<sup>(1)</sup>Store the product in a vertical position in a dry, covered location. Check the expiry date on the packaging.

Two Waste classification (2014/955/EU): 16 05 04 full or partially empty cartridge. Aerosol 1. Aerosol 3 Carc. 2 Acute Tox.4 STOT RE 2 Eye Irrit. 2 Skin Irrit. 2 STOT SE 3 Resp. Sens. 1 Skin Sens. 1

# **MS SEAL** MS POLYMER HIGH ELASTICITY SEALANT

#### IT CAN BE PAINTED

It can be overpainted with water-based paints commonly used in construction.

#### EFFECTIVE

MS SEAL, a pure, single-component product with practically no shrinkage and high elasticity, offers an alternative for airtightness in the case of visibly sealed joints, including those subject to movement.

# TECHNICAL DATA



Properties	standard	value	USC units
Classification	EN 15651-1	F-EXT/INT-CC <sup>(1)</sup>	-
Density	-	1,5 g/mL	12.5 lb/gal
Durability	EN 15651	passed	-
Surface cross-linking time 20 °C / 50% RH	-	approx. 20 min	-
Hardening speed 20 °C / 50 %RH	-	2,5 mm/24 h	0.1 in/24 h
Resistance to temperature	-	-40/+100 °C	-40/+121 °F
Application temperature (cartridge, ambient and support)	-	+5/+35 °C	+41/+95 °F
Shore A hardness	DIN 53505	25	-
Elongation at failure	ISO 8339	400%	-
Tensile elongation after immersion in water	ISO 10590	no failure	-
Tensile properties under extended pretension at -30°C	EN ISO 8340	no failure	-
Elastic return	ISO 7389	> 70%	-
Sliding resistance	ISO 7390	≤ 3 mm	≤ 0.12 in
Reaction to fire	EN 13501-1	class E	-
VOC emissions	EN 16516	very low	-
French VOC classification	ISO 16000	A+	-
Storage temperature <sup>(2)</sup>	-	+5/+25 °C	+41/+77 °F

 $^{(1)}$  Non-structural sealant for façade elements, for external and internal use, also in areas with cold climates.  $^{(2)}$ Store the product in a dry, covered location. Check the expiry date on the packaging.

Waste classification (2014/955/EU): 08 04 10.

EUH210 Safety data sheet available on request. EUH212 Warning! Hazardous respirable dust may be formed when used. Do not breathe dust. EUH208 Contains CAS 1760-24-3 and CAS 2768-02-7. May produce an allergic reaction.

# CODES AND DIMENSIONS

CODE	content	content	colour	version	
	[ml]	[US fl oz]			
MSSEALWHI600	600	20.29	white	soft cartridge	12
MSSEALGRE600	600	20.29	grey	soft cartridge	12



#### PERFORMANCE

Excellent resistance to ageing and UV rays. Classified as a non-structural sealant for façade elements, for outdoor and indoor use, also in areas with cold climates (type F-EXT-INT-CC) in accordance with EN 15651-1.

#### SAFE

Universal one-component sealant ideal for gluing and sealing the most common building materials. Also suitable for sealing walls or floors in food processing or preparation areas.



# FIRE FOAM

# HIGH FIRE-RESISTANT SEALING POLYURETHANE FOAM

#### FIRE RESISTANCE EI 240 AND CLASS B-s1,d0

Polyurethane foam designed to offer maximum protection against the passage of flames, smoke or gases. It has been tested in horizontal and vertical constructions on linear joints

in both concrete and timber.

#### **ETA CERTIFICATE**

The only ETA tested and certified foam for fire protection and sealing of linear joints and cracks.



# CE



() A+

# **TECHNICAL DATA**

Properties	standard	value	USC units
Post expansion	EN 17333-2	90 - 120 %	-
Yield	-	42 dm <sup>3</sup>	1.48 ft <sup>3</sup>
Film formation time 20 °C/65% RH	FEICA TM1014	≤ 10 min	-
Cutting time 23 °C / 50% RH	EN 17333-2	≤ 40 min	-
Time required for complete hardening 23 °C / 50% RH	-	24 h	-
Temperature resistance once hardened	-	-30/+80 °C	+50/+176 °F
Application temperature (ambient, support, cartridge) $^{(1)}$	-	+10/+30 °C	+50/+86 °F
Thermal conductivity (λ)	-	0,036 W/(m·K)	0.02 BTU/h·ft·°F
Dimensional stability	EN 17333-2	≤ 3 %	-
Deaction to fire	DIN 4102-1	class B1	-
Reaction to fire	EN 13501-1	class B-s1,d0	-
Fire resistance rating on concrete <sup>(*)</sup>	EN 13501-2	EI240	-
Fire resistance rating on plain CLT joint (100 mm) 20 mm joint <sup>(*)</sup>	EN 1363-4	EI90	-
Fire resistance rating on plain CLT joint (200 mm) 10 mm joint $^{(*)}$	EN 1363-4	EI120	-
Emicode	GEV test procedure	EC1 plus	-
French VOC classification	-	A+	-
Transport temperature	-	-20 °C/+30 °C	-4/+86 °F
Storage temperature <sup>(2)</sup>	-	+5 °C/+30 °C	+41/+86 °F

<sup>(1)</sup>The foam must be protected against UV rays.

<sup>(2)</sup>Store the product in a vertical position in a dry, covered location. Check the expiry date on the packaging.

(\*) For full details and tested configurations, please refer to the manual or contact our technical department.

**W** Waste classification (2014/955/EU): 16 05 04 full or partially empty cartridge Aerosol 1. Resp. Sens. 1. Carc. 2. STOT RE 2. Acute Tox. 4. Skin Irrit. 2. Eye Irrit. 2. Skin Sens. 1. STOT SE 3

CODE	content	yield	content	yield	colour	cartridge	
	[ml]	[L]	[US fl oz]	[US gal]			
FIREFOAM	750	42	25.36	11.1	pink	steel	12

### ■ FIELDS OF APPLICATION





# FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

TIGHTNESS (E)     Co       Pe     Pe	Cotton swab	> 160 minutos	
	Persistent flame	> 100 minutes	
INSULATION (I)	Time	> 160 minutes	EI 120

Cotton swab	106 minutes	
Persistent flame	106 minutes	
Time	106 minutes	EI 90
	Cotton swab Persistent flame Time	Cotton swab 106 minutes   Persistent flame 106 minutes   Time 106 minutes





#### MAXIMUM PERFORMANCE

Its uniform cell structure, dimensional stability and mechanical properties make it the ideal product for insulating, sealing and filling in all situations requiring high-performance fire protection.

# FIRE SEALING ACRYLIC

# HIGH FIRE-RESISTANT ACRYLIC SEALANT





CAN BE PAINTED



The sealant can be overpainted with the most common water-based paints and varnishes.

#### FIRE SAFETY

It can be used in applications subject to fire protection regulations up to EI 240. The inclusion of selected mineral fillers in the mixture ensures high fire resistance.



### **TECHNICAL DATA**

Properties	standard	value	USC units
Composition	-	based on acrylic polymers in water dispersion	-
Classification	EN 15651-1	F-INT <sup>(1)</sup>	-
Density	UNI 8490/2	1,7 g/mL	14.2 lb/gal
Yield for 10x10 mm joint	-	5,5 m	18 ft
Surface cross-linking time 23 °C	-	approx. 30 min	-
Time required for complete hardening 23 °C/50% RH	-	approx.10 days	-
Shore A hardness	EN ISO 868	approx. 10	-
Application temperature	-	+5/+30 °C	+41/+86 °F
Operating temperature	-	-25/+85 °C	-13/+185 °F
Elongation at failure	DIN 53504	700%	-
Reaction to fire	EN 13501-1	class B-s1,d0	-
Fire resistance rating on concrete <sup>(*)</sup>	EN 13501-2	EI 240	-
Fire resistance rating on plain CLT joint (100 mm), 5 mm joint <sup>(*)</sup>	EN 1363-4	EI 90	-
Emicode	GEV test procedure	EC1 plus	-
French VOC classification	ISO 16000	A+	-
Storage temperature <sup>(2)</sup>	-	+5/+35 °C	+41/+95 °F

<sup>(1)</sup>Non-structural sealant for façade elements, for indoor use. <sup>(2)</sup>Store the product in a dry, covered location. Check the expiry date on the packaging.

(\*)For full details and tested configurations, please refer to the manual or contact our technical department.

Twaste classification (2014/955/EU): 08 04 10.

EUH210 Safety data sheet available on request. EUH208 Contains CAS 55965-84-9 (3:1), CAS 2634-33-5. May produce an allergic reaction.

CODE	content	content	colour	version	
	[ml]	[US fl oz]			
FIREACR550	550	18.60	white	soft cartridge	20

#### ■ FIELDS OF APPLICATION



# FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.



#### RELATED PRODUCTS



FLY SOFT page 398



FIRE FDAM page 128





# VERSATILE

Good workability, it also adheres to moist supports, does not drip and is easily smoothed.

#### EMICODE EC1 PLUS

Certified by GEV in terms of very low emissions of Volatile Organic Compounds.

# **FIRE SEALING SILICONE**

# HIGH FIRE-RESISTANT SILICONE SEALANT







#### **FIRE RESISTANCE EI 240**

Silicone sealant designed to offer maximum protection against the passage of flames, smoke or gases.

It has been tested in horizontal and vertical constructions on connecting joints in both concrete and timber.

#### NOISE REDUCTION

The product has been tested in different configurations at the University of Bologna in accordance with ASTM C919-9 and ISO 10140-2:2021, achieving high soundproofing performance.

#### HIGH UV RESISTANCE

The silicone polymer remains intact even when exposed to UV radiation, with no surface micro-cracks or chalking observed years after installation.



# **TECHNICAL DATA**

Properties	standard	value	USC units
Classification	EN 15651-1	F-EXT/INT-CC <sup>(1)</sup>	-
Density	ISO 1183-1	1,482 g/mL	12.37 lb/gal
Yield for 10x10 mm joint	-	3,1 m	10.7 ft
Surface cross-linking time 23 °C	-	approx. 80 min	-
Hardening speed 23 °C	-	approx. 2 mm in 24 h	-
Operating temperature	-	-50/+150 °C	-58/+302 °F
Application temperature	-	+5/+40 °C	+41/+104 °F
Shore A hardness	DIN 53505	approx. 30	-
Elongation at failure	DIN 53504	460%	-
Tensile strength	DIN 53504	0,72 N/mm <sup>2</sup>	104 lbf/in <sup>2</sup>
Compressive modulus 100%	DIN 53504	0,38 N/mm <sup>2</sup>	55 lbf/in <sup>2</sup>
Reaction to fire	EN 13501-1	class B-s2,d0	-
Fire resistance rating on concrete <sup>(*)</sup>	EN 13501-2	EI 240	-
Fire resistance rating on plain CLT joint (100 mm), 5 mm joint <sup>(*)</sup>	EN 1363-4	EI 90	-
Fire resistance rating on CLT joint (200 mm) with joint cover board, 2 mm joint <sup>(*)</sup>	EN 1363-4	EI 120	-
Resistance to acids and bases	-	excellent	-
Emicode	GEV test procedure	EC1	-
French VOC classification	ISO 16000	A+	-
Storage temperature <sup>(2)</sup>	-	+5/+25 °C	+41/+77 ° F

(1) Non-structural sealant for façade elements, for external and internal use, also in areas with cold climates.

(2)Store the product in a dry, covered location. Check the expiry date on the packaging.
(\*)For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 09.

Eve Dam. 1. Skin Sens. 1B. Repr. 1A.

CODE	content	content	colour	version	
	[ml]	[US fl oz]			
FIRESILGRE310	310	10.48	grey	rigid cartridge	24

# FIELDS OF APPLICATION



#### FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

	Cotton swab		
TIGHTNESS (E) Persistent flame	> 106 minutes		
INSULATION (I)	Time	> 106 minutes EI 90	
			45° 5

#### SOUND REDUCTION LEVEL MEASUREMENTS

At the laboratories of the Building and Construction Research Centre - CIRI of the University of Bologna, tests were carried out in accordance with ASTM C919 to characterise the sealant from an acoustic point of view. The application of silicone made it possible to restore the sound reduction that the wall had lost when a crack was created in it.



R<sub>w</sub> (C;C<sub>tr</sub>) = **50 (-2;-7) dB** 

plasterboard panels that do not touch the floor



plasterboard panels with FIRE SEALING SILICONE to restore the sound reduction index





#### FAÇADE AND EXTREME CLIMATES

Classified, in accordance with EN 15651-1, for indoor and outdoor non-structural uses, it can also be used on façades and in areas with cold climates. High adhesion and high UV resistance.

#### SAFETY

For sealing linear joints in fire rated walls and doors, in situations subject to fire regulations.

# NAIL PLASTER | GEMINI

# HIGH-ADHESION NAIL SEALING TAPE



#### HERMETIC

The closed cell polyethylene structure ensures the opening created by the fastening systems is waterproof. The product is resistant to heavy rain, confirming its efficacy and robustness in the most adverse conditions.

#### WIDE RANGE

Also available in 5 mm thickness, 70 mm width and double-sided adhesive for more secure sealing.

#### COMPOSITION

#### NAIL PLASTER



(2) glue: synthetic rubber

#### GEMINI

- (1) glue: synthetic rubber
- (2) carrier: PE foam
- (3) glue: synthetic rubber
- (4) liner: silicone-impregnated film



#### CODES AND DIMENSIONS

#### NAIL PLASTER

CODE	В	s		L	В	S	L	
	[mm]	[mm]		[m]	[in]	[mil]	[ft]	
NAILPLA350	50	3		30	2.0	118	98	10
NAILPLA370	70	3		30	2.8	118	98	7
NAILPLA550	50	5		10	2.0	197	33	6
CODE	В	Н	s	В	Н	S	pcs/roll	
	[mm]	[mm]	[mm]	[in]	[in]	[mil]		
NAILPLA35050	50	50	3	2.0	2.0	118	400	6

#### GEMINI

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
GEMINI60	60	3	30	2.4	118	98	8
GEMINI80	80	3	30	3.2	118	98	6

# **TECHNICAL DATA**

Properties	value	USC units
Adhesion strength	greater than product strength	-
Resistance to heavy rain NAIL PLASTER	≥ 600 Pa	-
Resistance to heavy rain GEMINI	≥ 1000 Pa	-
Resistance to temperature	-30/+80 °C	-22/+176 °F
Application temperature <sup>(1)</sup>	≥ +5 °C	≥ +41 °F
Storage temperature <sup>(2)</sup>	+5/+25 °C	+41/+77 °F
Solvents	no	_

 $^{(1)}$  On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.  $^{(2)}$  Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 07 02 13.

### FIELDS OF APPLICATION



# 

UNWINDER FOR NAIL POINT SEALING TAPE

- Time saving
- Quick and precise installation

CODE	description	pcs			
LIZARD	unwinder	1			
See the product on page 388.					





# PRACTICAL

With the help of LIZARD, installation is easy and fast, done directly on the ventilation battens.

# DOUBLE SECURITY

The GEMINI version offers double adhesion and guarantees continuous adhesion between the membrane and batten, avoiding water accumulation in drilled points.

# **NAIL BAND** BUTYL NAIL POINT SEALANT TAPE



#### SPECIAL BUTYL MIX

Thanks to its modified butyl formulation, it ensures excellent durability even when subjected to thermal stress. Also suitable for installation at low temperatures.

#### LOW TEMPERATURES

The butyl ensures excellent adhesion to supports under difficult environmental conditions.



### TECHNICAL DATA

Properties	standard	value	USC units
Resistance to temperature	-	-40/+100°C	-40/+212 °F
Application temperature <sup>(1)</sup>	-	+0/+40 °C	+32/+104 °F
Tensile strength MD/CD	EN 12311-1	40/40 N/50 mm	approx. 5/5 lbf/in
Elongation MD/CD	EN 12311-1	> 600/600 %	-
Adhesion strength at 180°	ASTM D 1000	22 N/10 mm	12.6 lbf/in
Initial Tack	ASTM D 2979	7,2 N	1.62 lbf
Reaction to fire	EN 13501-1	class E	-
Storage temperature <sup>(2)</sup>	-	+5/+40 °C	+41/+104 °F
Solvents	-	no	-

 $^{(1)}$  Between +0°C and +5°C, the absence of condensation or frost on the surface must be guaranteed.

<sup>(2)</sup> Store the product in a dry, well-ventilated and covered location, in its original unopened container.

Waste classification (2014/955/EU): 08 04 10.

# CODES AND DIMENSIONS

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
NAILBAND50	50	1	15	2.0	39	49	12



### SELF-SEALING

Due to its elasticity, butyl tends to seal around the screw or nail used to fix the battens or elements on which it is installed.

#### DURABILITY

The butyl mix ensures excellent durability even under thermal stress, while maintaining elasticity and impermeability over time.

# BUTYL BAND

# DOUBLE-SIDED UNIVERSAL BUTYL TAPE





#### STRONG

The polyester grid guarantees consistence and high resistance.

#### HERMETIC

Appropriate for watertight seals for timber-to-timber and/or timber-to-concrete joints.



#### **TECHNICAL DATA**

Properties	standard	value	USC units
Initial Tack +23/+5 °C	ASTM D 2979	9/14 N	2.0/3.1 lbf
Tensile strength MD/CD	EN 12311-1	115/140 N/50 mm	13.13/16 lbf/in
Elongation MD/CD	EN 12311-1	15/15%	-
Adhesion strength on steel at 180°	ASTM D 1000	31 N/10 mm	17.7 lbf/in
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-40/+130 °C	-40/+266 °F
Application temperature <sup>(1)</sup>	-	+0/+45 °C	+32/+113 °F
Storage temperature <sup>(2)</sup>	-	+0/+50 °C	+32/+122 °F
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Solvents	-	no	-
Exposure to weather	-	2 weeks	-

(1) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

<sup>(2)</sup>Store the product in a cool, dry place for no more than 12 months. It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

Waste classification (2014/955/EU): 08 04 10.

# CODES AND DIMENSIONS

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
BUTYLBAND1501	15	1	15	0.6	39	49	20
BUTYLBAND1502	15	2	10	0.6	79	33	13



# SPECIAL BUTYL MIX

Thanks to its special modified butyl formulation, it ensures excellent durability even when subjected to thermal stress and UV rays.

#### ADAPTABLE

Butyl is also perfectly suited for installation in tight spaces and on irregular profiles without resistance.

# **FIRE STRIPE GRAPHITE**

# FLEXIBLE INTUMESCENT GASKET



#### INTUMESCENT

Even in the event of fire, it does not release gases or harmful substances. Asbestos-free, its intumescence is due to the presence of graphite.

#### FIRE RESISTANCE EI 90 ON TIMBER

Gasket designed to offer maximum protection against the passage of flames, smoke or gases.

It has been tested in horizontal and vertical constructions on linear joints.



# **TECHNICAL DATA**

Properties	standard	value	USC units
Density	-	approx. 1500 kg/m <sup>3</sup>	approx. 94 lbm/ft <sup>3</sup>
Flammability	UL 94	VO	-
Watertightness	-	compliant	
Expansion start temperature	-	> 180 °C	> 356 °F
Optimal expansion temperature	-	> 210 °C	> 410 °F
Thermal expansion after 30 minutes:			
- 300°C	EOTA TR 024	initial thickness x5	-
- 450°C	EOTA TR 024	initial thickness x8	-
- 550°C	EOTA TR 024	initial thickness x10	-
Application temperature <sup>(1)</sup>	-	+15/+30 °C	+59/+86 °F
Fire resistance rating on plain CLT joint (120 mm), 8 mm joint + MANICA PLASTER (PROTECT) <sup>(*)</sup>	EN 1363-4	EI 90	-
Fire resistance rating on plain CLT joint (100 mm), 5 mm joint + FLEXI BAND <sup>(*)</sup>	EN 1363-4	EI 90	-
Fire resistance rating on plain CLT joint (200 mm), 2 mm joint + FLEXI BAND <sup>(*)</sup>	EN 1363-4	EI 120	-

(1) The sole purpose of the FIRE STRIPE GRAPHITE adhesive is to help position the product. It requires mechanical fastening.

(\*)For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 07 02 13.

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
FIRESTRIPEG25	25	1,5	50	1	59	164	3

# FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

TIGHTNESS (E)	Cotton swab	> 96 minutes	
	Persistent flame	> 30 minutes	
INSULATION (I)	Time	> 96 minutes	EI 90

TICHTNESS (E)	Cotton swab	> 106 minutes	
TIGHTNESS (E)	Persistent flame	> 100 minutes	
INSULATION (I)	Time	> 106 minutes	EI 90

	Cotton swab	> 160 minutos	
	Persistent flame		
INSULATION (I)	Time	> 160 minutes	EI 120







#### THERMO-EXPANDING

As the temperatures rise, the product becomes a foam, expanding up to 10 times its thickness and providing effective protection even near connections.

#### PRACTICAL

The gasket can be cut using simply scissors or a box cutter. Installation is immediate thanks to the adhesive surface.

# **SUPRA BAND**

# UNIVERSAL DOUBLE-SIDED BUTYL TAPE WITH **HIGH ADHESION**

#### UNMATCHABLE

Water and air resistant, it guarantees adhesion even to wet supports and at low temperatures.

#### ELASTIC

Also suitable for sealing timber-to-timber joints (it compensates for the natural movements of the material).





# 

(1)

release liner: silicone coated paper

glue: double-sided grey butyl compound (2)

# TECHNICAL DATA

Properties	standard	value	USC units
Initial Tack +23/+5 °C	ASTM D 2979	4/13,5 N	0.9/3.0 lbf
Adhesion strength on OSB at 90°	EN 29862	8 N/10 mm	4.6 lbf/in
Adhesion strength on OSB at 180°	EN 29862	6 N/10 mm	3.4 lbf/in
Adhesion strength (average) on membrane in $PP^{(1)}$	EN 12316-2	16 N/50 mm	1.8 lbf/in
Shear adhesion strength of the joint on membrane in $PP^{(2)}$	EN 12317-2	100 N/50 mm	11.4 lbf/in
Adhesion on steel at 180°	ASTM D 1000	13 N/10 mm	7.4
Adhesion on concrete 180°	-	44 N/10 mm	25.1 lbf/in
Vertical sliding	ISO 7390	absent	-
Resistance to temperature	-	-40/+120 °C	-40/+248 °F
Fire resistance rating on plain CLT joint (120 mm), 3 mm joint <sup>(*)</sup>	EN 1363-4	EI 90	-
Application temperature <sup>(3)</sup>	-	-5/+40 °C	+23/104 °F
Storage temperature <sup>(4)</sup>	-	+0/+50 °C	+32/+122 °F
Solvents	-	no	-
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Exposure to weather	-	4 weeks	-

 (1)Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
(2)Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
(3) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed. <sup>(4)</sup>Store the product in a cool, dry place for no more than 12 months.

(\*) For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 10.

CODE	В	s	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
SUPRA6	6	4	6	0.2	160	20	7
SUPRA10	10	4	6	0.4	160	20	7

# ■ FIELDS OF APPLICATION



### FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

	Cotton swab	b 06 minutes	
TIGHTNESS (E)	Persistent flame	> 96 minutes	
INSULATION (I)	Time	> 96 minutes	EI 90



# RELATED PRODUCTS



DOUBLE BAND page 68



page 160



page 148



BLACK BAND page 144



#### SPECIAL BUTYL MIX

The special butyl mix ensures the product retains its high adhesive properties over time.

# FAST INSTALLATION

Its adhesive power also allows the sealing of damp or porous surfaces without the need to apply additional products, saving time and money.

# ALU BUTYL BAND



# REFLECTING BUTYL ADHESIVE TAPE



#### BUTYL

The butyl composition offers excellent adhesion on the most common surfaces, even very porous ones.

#### UV-STABLE

The reinforced aluminium coating protects the butyl mixture, guaranteeing that the seal lasts.

#### **COMPOSITION**



- (2) glue: grey adhesive butyl compound
- (3) release liner: PE film



#### **TECHNICAL DATA**

Properties	standard	value	USC units
Initial Tack +23/+5 °C	ASTM D 2979	7,2/13 N	1.6/2.9 lbf
Adhesion strength on steel at 180°	ASTM D 1000	20 N/10 mm	11.42 lbf/in
Vertical sliding	ISO 7390	0 mm	
Tensile strength MD/CD	EN 12311-1	185/200 N/50 mm	21.13/22.84 lbf/in
Elongation MD/CD	EN 12311-1	10/20 %	-
Water vapour resistance factor (µ)	UNI EN 1931	2720000	13600 MN·s/g
UV-resistant	-	permanent	-
Watertightness	-	compliant	-
Application temperature <sup>(1)</sup>	-	0/+40 °C	+32/104 °F
Resistance to temperature	-	-40/+100 °C	-40/+212 °F
Reaction to fire	EN 13501-1	class E	-
Storage temperature <sup>(2)</sup>	-	+5/+40 °C	+41/104 °F
Solvents	-	no	-
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-

 $^{(1)}$  On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

(2)Store the product in a cool, dry place for no more than 12 months. It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

Waste classification (2014/955/EU): 08 04 10.

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
ALUBUTYL75	75	1	10	3.0	39	33	8
ALUBUTYL150	150	1	10	5.9	39	33	4

# ■ FIELDS OF APPLICATION







# RELATED PRODUCTS



ALU BAND page 66



BYTUM SPRAY page 48



BYTUM LIQUID page 50



BYTUM PRIMER page 53



# STRONG

Thanks to the reinforced aluminium film, it has outstanding mechanical properties and is tear-resistant.

#### VERSATILE

Widely used in building roofing, repair of surface cracks, repair of motor homes, windows, boat seals, glazing and roofing.

# BLACK BAND

# UNIVERSAL SINGLE-SIDED BUTYL TAPE



#### EXTRAORDINARY

Universal and expandable up to 300%, it effectively seals any crack on the most widely used construction materials.

#### PRACTICAL

Ideal for easy sealing on difficult nodes and very irregular surfaces; self-sealing even at low temperatures.

#### COMPOSITION

(1) support: high density PE film

- (2) glue: black adhesive butyl compound
- (3) release liner: easy-release PP film



#### **TECHNICAL DATA**

Properties	standard	value	USC units
Initial Tack +23/+5 °C	ASTM D 2979	7,2/13 N	1.6/2.9 lbf
Adhesion strength on steel at 180°	ASTM D 1000	22 N/10 mm	12.6 lbf/in
Tensile strength MD/CD	EN 12311-1	20/10 N/50 mm	2.28/1.14 lbf/in
Elongation MD/CD	EN 12311-1	250/300 %	-
Watertightness	-	compliant	-
Application temperature <sup>(1)</sup>	-	+0/+45 °C	+32/+113 °F
Resistance to temperature	-	-40/+100 °C	-40/+212 °F
Storage temperature <sup>(2)</sup>	-	+0/+50 °C	+32/+122 °F
Solvents	-	no	-
French VOC classification	ISO 16000	A+	-
Exposure to weather	-	4 weeks	-

(1) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed. (2) Store the product in a cool, dry place for no more than 12 months. It is recommended to store the product at room temperature until application, as it is sensitive to

<sup>(2)</sup>Store the product in a cool, dry place for no more than 12 months. It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

Waste classification (2014/955/EU): 08 04 10.

CODE	liner	В	s	L	liner	В	S	L	
	[mm]	[mm]	[mm]	[m]	[in]	[in]	[mil]	[ft]	
BLACK50	50	50	2	10	2.0	2.0	79	33	6
BLACK4040	40/40	80	2	10	1.6/1.6	3.2	79	33	4
### RECOMMENDATIONS FOR INSTALLATION

SEALING OF TECHNICAL INSTALLATION PENETRATIONS





SEALING THE JOINT IN THE GROUND CONNECTION NODE











### FINGERLIFT AND PRE-CUT LINER

Thanks to the easy-release film, installation is quick. The 80 mm version has a pre-cut liner to facilitate installation in corners or complex locations.

### SPECIAL BUTYL MIX

The product's butyl formulation ensures excellent durability even under thermal stress making it suitable for installation even at low temperatures.

# **MANICA PLASTER**

### ADHESIVE SEALING SLEEVE THAT CAN BE PLASTERED

### CAN BE PLASTERED

The butyl compound is covered with a polypropylene fabric that can be plastered.

### SPECIAL BUTYL MIX

Thanks to its special modified butyl formulation, it ensures excellent durability even when subjected to thermal stress.

### 

(1)support: non-woven PP fabric

(2) glue: grey adhesive butyl compound

(з) release liner: PP film

# (1)(2) 3)

DURABILITY

### **TECHNICAL DATA**

Properties	standard	value	USC units
Initial Tack +23/+5 °C	ASTM D 2979	7,2/13 N	1.6/2.9 lbf
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-40/+120 °C	-40/+248 °F
Fire resistance rating on plain CLT joint (120 mm), 8 mm joint + MANICA PLASTER <sup>(*)</sup>	EN 1363-4	EI 90	
Tensile strength MD/CD	EN 12311-1	115/100 N/50 mm	13.1/11.4 lbf/in
Elongation MD/CD	EN 12311-1	100/100 %	-
Resistance to tearing MD/CD	EN 12310	≥ 130/≥ 125 N	≥ 29.23/≥ 28.10 lbf
Joint separation resistance MD/CD	EN 12316-1	≥ 20 N/50 mm	≥ 2.28 lbf/in
Maximum tensile force MD/CD	EN 12317-1	≥ 100/≥ 75 N/50 mm	≥ 11.42/≥ 8.57 lbf/in
Adhesion of class C2E cementitious glue on TNT	EN 12004/EN 1348	0,9 N/mm2	130.53 lbf/in2
Water vapour resistance factor (µ)	EN 1931	approx. 26176	approx. 130 MN·s/g
Application temperature <sup>(1)</sup>	-	+0/+45 °C	+32/+113 °F
Storage temperature <sup>(2)</sup>	-	+0/+50 °C	+32/+122 °F
Solvents	-	no	-
French VOC classification	ISO 16000	A+	-
VOC emissions	EN 16516	very low	-
Exposure to weather	-	4 weeks	-

(1) On dry support and at a temperature > 0 °C. The absence of condensation or frost on the surface must be guaranteed.

(2) Store the product in a cool, dry place for no more than 12 months. It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

(\*)For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 10.

### CODES AND DIMENSIONS

CODE	liner	В	s	L	liner	В	S	L	
	[mm]	[mm]	[mm]	[m]	[in]	[in]	[mil]	[ft]	
MANPLA2080	20/80	100	1	10	0.8/3.2	3.9	39	33	6
MANPLA20180	20/180	200	1	10	0.8/7.1	7.9	39	33	2



LOW CAN BE TEMPERATURE PLASTERED



EASY USE

### RECOMMENDATIONS FOR INSTALLATION

SEALING OF CABLES AND CORRUGATED TUBES THROUGH PIPES



WINDOW NODE - WATERPROOFING BELOW TIE BEAM





### FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

TIGHTNESS (E)	Cotton swab	> 06 minutos	
	Persistent flame	> 90 minutes	
INSULATION (I)	Time	> 96 minutes	EI 90





### TIME SAVING

Thanks to the pre-cut separating film and the product deformation properties, small cables and irregular elements can be sealed without loss of time or accumulation of bulky material.

### SMART

The pre-cut liner makes it suitable for numerous applications, for example along the perimeter of beams and penetrating elements or for sealing windows.

# MANICA FLEX

### SEALING SLEEVE FOR CONDUIT AND CABLE PASSAGE



### COMPLETE RANGE

Available in several variants to ensure tightness in different situations. Available in both sealable TPU and EPDM.

### HERMETIC

Ensures airtightness and watertightness for cables and other pass-through elements.

### **COMPOSITION**



MANICA FLEX - TPU



(1) Extruded compact EPDM



### CODES AND DIMENSIONS

### MANICA FLEX - EPDM

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
MANFEPDM100	100	1,5	10	3.9	59	33	1
MANFEPDM150	150	1,5	10	5.9	59	33	1

### MANICA FLEX - TPU

CODE	В	S	Н	В	S	Н	
	[mm]	[mm]	[mm]	[in]	[mil]	[in]	
MANFTPU300	300	0,4	300	11.8	16	11.8	10
MANFTPU430	430	0,4	430	16.9	16	16.9	10

Waste classification (2014/955/EU): 17 02 03.

### RECOMMENDATIONS FOR INSTALLATION

MANICA FLEX - EPDM: SEALING OF CABLES AND CORRUGATED TUBES THROUGH PIPES





ROLLER, WELD LIQUID, CUTTER, HOT GUN

ERASPIBEUOZO CE



Both versions can be quickly sealed with a Rothoblaas tape and can be repositioned. The TPU version can be heat or chemically sealed.

### SMART

The version in EDPM is available in convenient rolls making it easy to cut the product to size without needing to order different sizes. In addition, numerous penetrating elements can be sealed using a single sleeve, which can be perforated at various points, as required.

# **PIPE LINK**

### INSTALLATION PIPE CONNECTION SYSTEM

### PREFABRICATED

It improves the efficiency of prefabrication and reduces costs, cutting down the assembly time of prefabricated timber elements during construction. The connector can be installed without any tools. A simple cylindrical hole is all that is required. When assembling the elements, compensation for the 5 mm tolerance in each direction is guaranteed by the funnel-shaped sleeve.

### SAFE

When installing the prefabricated elements, the pipes no longer need to be inserted between the individual elements, eliminating the risk of injury during all stages of installation.

### SUSTAINABLE

Accurate planning reduces empty conduit wastage to a minimum.





### CODES AND DIMENSIONS

CODE	for installat	for installation pipes Ø		Ø hole in element		
	[mm]	[in]	[mm]	[in]		
PIPELINK20	20	13/16″	25	1″	150	
PIPELINK25	25	1"	30	1 3/16″	100	
PIPELINK40	40	1 9/16″	45	1 3/4"	70	

### **TECHNICAL DATA**

Properties	M20 M25			25	M40	
Internal diameter Ø	13 mm	0.512 in	18 mm	0.709 in	31 mm	1.220 in
External diameter Ø	25 mm	0.984 in	30 mm	1.181 in	45 mm	1.772 in
Height	31 mm	1.220 in	31 mm	1.220 in	31 mm	1.220 in
Weight	3,8 g	0.135 oz	4,6 g	0.162 oz	9,1 g	0.321 oz
Temperature resistance	-5/+90 °C					
Resistance to external influences	IP30 (EN 60529)					

### **MOUNTING**



- 2 Insert the PIPE LINK in the hole with the funnel facing outwards, flush with the surface (self-locking).
- 3 Insert the installation pipe from the rear wall up to the interlocking edge. The pipe locks into place.
- 4 Repeat the procedures from steps 1 to 3 for all elements that need to be connected.
- **5** When installing the prefabricated elements, the pipes can be laid together without needing to be inserted into the joint, ensuring a perfect solution for subsequent cable laying.

### RELATED PRODUCTS

TUBE STOPPER page 152 When combined with the TUBE STOPPER, a clean cable outlet is also ensured.

CODE	Ø	Ø	
	[mm]	[in]	
TUBESTOP20	20	0.8	20
TUBESTOP25	25	1.0	20



# **TUBE STOPPER**

### • For sealing corrugated pipes

- Quick and easy installation
- No special equipment required
- It can be perforated for cable routing





### CODES AND DIMENSIONS

CODE	Ø	Ø	
	[mm]	[in]	
TUBESTOP20	20	0.8	20
TUBESTOP25	25	1.0	20

Waste classification (2014/955/EU): 17 02 03.

# MANICA

### SEALING SLEEVE WITH SHRINK TUBING AND CLAMP

- Sleeve, heat shrink tubing and metal clamp ensure waterproofing
- The three models with a base of slated bituminous concrete, PVC and FPO/PP make it possible to choose the most suitable base for the roofing sheath
- The materials are weather-resistant, stabilised against UV radiation, resistant to high and low temperatures, oxidation and ageing



### CODES AND DIMENSIONS

CODE	description	material	<b>d<sub>1</sub></b> [mm]	<b>d<sub>2</sub></b> [mm]	<b>H</b> [mm]	<b>s<sub>1</sub></b> [mm]	<b>s<sub>2</sub></b> [mm]	pcs	
MAN50BIT	sealing sleeve with shrink tubing and clamp	PVC; slated bituminous	50	430	210	3	4	1	
MAN50PVC	sealing sleeve with shrink tubing and clamp	PVC	50	180	300	3	2	1	d <sub>2</sub>
MAN50PP	sealing sleeve with shrink tubing and clamp	FPO/PP	50	180	300	3	2	1	-s <sub>2</sub>

# ADHESIVE SEALING SLEEVE

- Aluminium coated for permanent UV stability
- Excellent butyl adhesion
- Resistant to thermal stress





### CODES AND DIMENSIONS

CODE	В	Н	Ø	В	Н	Ø	colour	
	[mm]	[mm]	[mm]	[in]	[in]	[in]		
MANPOST1	300	200	25/32	11.8	7.9	1.0/1.3	brown	5
MANPOST2	300	200	42/55	11.8	7.9	1.7/2.2	brown	5
MANPOST3	230	230	42/55	9.1	9.1	1.7/2.2	aluminium	4

Waste classification (2014/955/EU): 17 09 04.

## **MANICA LEAD** LEAD PROFILE WITH EPDM SLEEVE

- Excellent for waterproofing lifeline supports such as TOWER
- It can be used on roofs with different slopes
- Perfectly sealed EPDM sleeve



### CODES AND DIMENSIONS

CODE	s	В	L	Ø	S	В	L	Ø	material	
	[mm]	[mm]	[mm]	[mm]	[mil]	[in]	[in]	[in]		
MANEPDM	-	-	-	48	-	-	-	1.9	EPDM	150
MANLEAD	1	310	405	-	39	12.2	15.9	-	lead <sup>(1)</sup>	5

 $^{(1)}\mbox{Avoid}$  contact with skin, eyes and food. Do not produce and breathe dust. Waste classification (2014/955/EU): 17 04 03.

# **THERMOWASHER**

# WASHER TO FASTEN INSULATION TO TIMBER

### CE FASTENING WITH HBS SCREWS

The THERMOWASHER is intended for use with screws with the CE marking in accordance with ETA. Ideal for  $\emptyset$ 6 or  $\emptyset$ 8 HBS screws, with lengths based on the thickness of the insulation to be fastened.

### ANTI-THERMAL BRIDGE

Incorporated hole cover to avoid thermal bridges. Large cable spaces for proper plaster adhesion. Has a system that prevents the screw from pulling out.



### CODES AND DIMENSIONS

CODE	d <sub>SCREW</sub>	d <sub>HEAD</sub>	thickness	depth	pcs
	[mm]	[mm]	[mm]	[mm]	
THERMO65	6÷8	65	4	20	700









MATERIAL



### FIELDS OF USE

The propylene washer with an external diameter of 65 mm is compatible with 6 and 8 mm screw diameters.

# **ISULFIX**

# ANCHOR FOR FASTENING INSULATION TO BRICKWORK

### CERTIFIED

Anchor with the CE mark in accordance with ETA, with certified resistance values. Double expansion with preassembled steel nails allows for fast versatile fastening on concrete and brickwork.

### DOUBLE EXPANSION

 $\emptyset$ 8 PVC double expansion anchor with preassembled steel nails, for fastening to concrete and brickwork. Can be used, with an additional washer, on particularly soft insulating materials.



### CODES AND DIMENSIONS

CODE	d <sub>HEAD</sub>	L	d <sub>HOLE</sub>	А	pcs		
	[mm]	[mm]	[mm]	[mm]			
ISULFIX8110		110		80	250		
ISULFIX8150	60	150	8	120	150		
ISULFIX8190		190		160	100		
A= maximum fastening	thickness						
CODE	d <sub>HEAD</sub>		description		pcs		
	[mm]						
ISULFIX90	90	90 additional washer for soft insulation					





CE



### FIELDS OF USE

Anchor available in various measurements for different insulation thicknesses; can be used with an additional washer for use with soft insulation; method of use and certified laying possibilities indicated in the relative ETA document.

# REACH

### Registration, Evaluation, Authorisation of Chemicals (CE n. 1907/2006)



### REACH REGULATION

It is the European regulation for managing chemicals either as are, or as components of **mixtures** (preparations) and **items** (ref. Art.3). This regulation attributes precise responsibilities to each link of the supply chain regarding the communication and safe use of hazardous substances.

### WHAT'S IT FOR?

REACH aims to ensure a high level of human health and environmental protection. The introduction of REACH requires the collection and communication of complete information on the dangers of certain substances and their safe use within the supply chain (Regulation CLP (CE) no. 1272/2008).

In particular, for users, these concepts translate into:

- SVHC Substances Of Very High Concern List of any hazardous substances contained in items
- SDS Safety Data Sheet Document that contains the information for correct management of every hazardous mixture

### REACH PROCESS



PRODUCTS

**REACH REGULATION** 

MARKET

# MEMBRANE GLUE

### ADHESIVE GLUE FOR SEALING MEMBRANES

### EFFECTIVE

Solvent-free acrylic adhesive, with good adherence to the most common supports.

### PRACTICAL

Easily extruded mix, ready to use and easily removed with water prior to hardening.



### **TECHNICAL DATA**

Properties	value	USC units
Composition	acrylic without solvents	-
Density ISO 1183	$1,05 \pm 0,4 \text{ g/cm}^3$	8.76 <u>+</u> 0.33 lb/gal
Time required for drying 25 °C/50 %RH	24 - 72 hours	-
Resistance to temperature	-20/+80 °C	-4/176 °F
Application temperature (cartridge, ambient and support)	+5/+40 °C	+41/104 °F
Emicode	EC1 plus	-
French VOC classification	A+	-
Transport temperature	0/+35 °C	+32/95 °F
Storage temperature <sup>(1)</sup>	+10/+25 °C	+50/77 °F

 $^{(1)}$  Store the product in a dry, covered location. Check the expiry date on the packaging.

Waste classification (2014/955/EU): 08 04 10.

EUH208 Contains CAS 55965-84-9 (3:1), CAS 2634-33-5. May produce allergic reactions.

### CODES AND DIMENSIONS

CODE	content	yield of the glue line Ø8 mm	content	yield of the glue line Ø8 mm	colour	version	
	[ml]	[m]	[US fl oz]	[ft]			
MEMBRAGLUE310	310	6	10.48	20	black	rigid cartridge	24
MEMBRAGLUE600	600	11,6	20.29	38	black	soft cartridge	20



### EMICODE EC1 PLUS

Thanks to the special formulation, the glue achieves the highest level of safety with regard to emissions that are harmful to health.

### QUICK DRYING

It offers a good compromise between adhesion and fast drying of the outer film, allowing application on vertical surfaces without slipping problems.





### RECOMMENDATIONS FOR INSTALLATION: INDOOR GLUES



MEMBRANE CONNECTION TO WALL - CONCRETE





MEMBRANE CONNECTION TO ROOF - CONCRETE





MEMBRANE CONNECTION TO ROOF - OSB





FLY, FLY SOFT

### MEMBRANE OVERLAP SEALING





WINDOW HOLE SEALING



1 PLASTER BAND LITE

MEMBRANE CONNECTION TO WALL - CONCRETE



1 PRIMER, PRIMER SPRAY

# **OUTSIDE GLUE**

### HIGH ELASTICITY UNIVERSAL ADHESIVE GLUE FOR EXTERNAL USE



### ELASTIC

The butyl composition offers high joint elasticity over time, even in the case of small deformations or movements.

### UNIVERSAL

Guarantees sealing and attachment to the most common materials, including damp or wet supports.



### **TECHNICAL DATA**

Properties	value	USC units
Composition	butyl rubber	-
Density	1,39 g/mL	11.60 lb/gal
Yield with strip Ø8 mm (cartridge 310 ml)	approx. 6 m	approx. 19.69 ft
Yield with strip Ø8 mm (cartridge 600 ml)	approx. 12 m	approx. 39.37 ft
Film formation time 20°C/50 %RH	20 - 30 min	-
Time required for complete hardening 20 °C/50 %RH <sup>(1)</sup>	4 - 6 weeks	-
Shore A hardness (DIN 53505)	approx. 15	-
Temperature resistance after hardening	-25/+70 °C	-13/+158 °F
Application temperature (cartridge, ambient and support)	+5/+40 °C	+41/+158 °F
Watertightness after hardening	compliant	-
Transport temperature	+5/+30 °C	+41/+86 °F
Storage temperature <sup>(2)</sup>	+5/+25 °C	+41/+77 °F
VOC	18,05% - 252,64 g/l	-

<sup>(1)</sup> During hardening, the product is subject to shrinkage.

<sup>(2)</sup>Store the product in a dry, covered location. Check the expiry date on the packaging.

TW Waste classification (2014/955/EU): 08 04 10. EUH066 Repeated exposure may cause skin dryness or cracking. EUH210 Safety data sheet available on request.

### CODES AND DIMENSIONS

CODE	content	content	colour	version	
	[ml]	[US fl oz]			
OUTGLUE310	310	10.48	grey	rigid cartridge	24
OUTGLUE600	600	20.29	grey	soft cartridge	12

### ■ FIELDS OF APPLICATION









### RELATED PRODUCTS



FLY page 398



ROLLER page 393



PLASTER BAND LITE page 98



BYTUM PRIMER page 53



### WATER AND UV RESISTANT

The product offers excellent UV stability and is also suitable for sealing in the event of the presence of water during installation without the need for drying time.

### DURABILITY

The butyl mix allows the product to remain elastic over time without altering its hermetic properties, even under high thermal stress.

# APPLICATION SETTINGS

VENTILATED CLT ROOF



### FRAME ROOF ON MASONRY WALL



### CLT STRUCTURE WITH VENTILATED WALL



FRAME WALL WITH WINDOW



# APPLICATION SETTINGS

RECOVERY OF A TIMBER ROOF



CONCRETE AND MASONRY ROOF



### ■ TIMBER FRAME STRUCTURE



### STEEL FRAME WITH BRICK CLADDING



# MEMBRANES





VAPOR 140 - VAPOR 150 - VAPOR NET 180 - VAPOR 225

**VARIABLE Sd - RESTORATION** υν CLIMA CONTROL NET 160

MORIET CARGE INE TO LA RAYS

**VARIABLE Sd - RESTORATION** CLIMA CONTROL 80 - CLIMA CONTROL 105 - CLIMA CONTROL NET 145

VAPOR IN GREEN 200

BEAM BOTTOM

REFLECTIVE

RAVS

EXPOSURE TO UV

NDIRECT

6

ATMOSPHERIC AGENTS

BARRIER ALU NET SD150 - BARRIER ALU NET SD1500 BARRIER ALU FIRE A2 SD2500 - BARRIER ALU NET ADHESIVE 300

### **FIRE REQUIREMENTS**

BARRIER ALU NET SD1500 - BARRIER ALU FIRE A2 SD2500 BARRIER ALU NET ADHESIVE 300

**BLOWING** 

BARRIER NET SD40 - BARRIER ALU NET SD150 VAPOR IN NET 140 - CLIMA CONTROL NET 145 - CLIMA CONTROL NET 160

### TRANSPARENT

BARRIER NET SD40 - BARRIER SD150 CLIMA CONTROL 80 - CLIMA CONTROL 105 CLIMA CONTROL NET 145 VAPOR IN 120 - VAPOR IN NET 140 DEFENCE ADHESIVE



INDIRECT EXPOSURE TO UV RAYS

۲ ALU BAND SEAL BAND EASY BAND SPEEDY BAND FLEXI BAND SMART BAND PLASTER BAND INVISI BAND MULTI BAND MANICA PLASTER

 $\langle \mathfrak{O} \rangle$ DOUBLE BAND SUPRA BAND BUTYL BAND MEMBRANE GLUE

( 👌 FIRE SEALING FIRE FOAM FIRE STRIPE GRAPHITE FRONT BAND UV 210 MULTI BAND UV

AIRTIGHTNESS

### BLOWING

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UV

BARRIER NET SD40 - BARRIER ALU NET SD150 BARRIER ALU FIRE A2 SD2500 - VAPOR IN NET 140 VAPOR NET 110 - CLIMA CONTROL NET 145

### TRANSPARENT

BARRIER NET SD40 - BARRIER SD150 VAPOR IN 120 VAPOR IN NET 140 CLIMA CONTROL 80 - CLIMA CONTROL 105 CLIMA CONTROL NET 145 - DEFENCE ADHESIVE

**FIRE REQUIREMENTS** 

BARRIER ALU NET SD1500 0 BARRIER ALU FIRE A2 SD2500 BARRIER ALU NET ADHESIVE 300

> REFLECTIVE BARRIER ALU NET SD150 **BARRIER ALU NET SD1500** BARRIER ALU NET ADHESIVE 300

**VARIABLE Sd - RESTORATION** CLIMA CONTROL 80 - CLIMA CONTROL 105 **CLIMA CONTROL NET 145** 

ADHESIVE VAPOR ADHESIVE 260 BARRIER ALU NET ADHESIVE 300 - DEFENCE ADHESIVE

**FIRE REQUIREMENTS** 

BARRIER ALU NET SD 1500 **BARRIER ALU NET ADHESIVE 300** 

**VARIABLE Sd - RESTORATION** CLIMA CONTROL NET160

UV VAPOR NET 110 - VAPOR 140 - VAPOR 150

# BREATHABLE AND VAPOUR CONTROL SCREENS

### RESISTANCE TO PENETRATION OF WATER VAPOUR

The main parameter that defines the type of membrane is its **resistance to penetration of water vapour value**, identified with Sd (m).

**Sd (m)**: equivalent air layer, as it is a measure of the thickness of air that would offer the same resistance as the product or structure in question to the passage of vapour (by diffusion).

Another parameter describing the water vapour diffusion capacity of products is the **water vapour permeability**, which can be expressed in US Perm,  $\mu$ g/Ns and g/m<sup>2</sup>24h.

The membranes classification is not defined by a single standard but is determined by different national standards in different ways depending on their Sd value. For this reason, finding a single definition valid for all countries is not possible.



### BREATHABLE AND VAPOUR CONTROL MEMBRANE CLASSIFICATION

Membranes can be grouped into 3 categories, based on their characteristics:

	AIRTIGHTNESS	WATERTIGHTNESS	RESISTANCE TO WATER VAPOUR
Vapour barriers	•••	• • •	•••
Vapour control membranes	•••		
Breathable membranes	•••	•••	000

The properties described here, together with other parameters mentioned in the technical data sheets, are regulated by the CE marking protocol for vapour control membranes (EN 13984), underlays for discontinuous roofing (EN 13859-1) and wall underlays (EN 13859-2).



### MEMBRANE PERFORMANCE

The membranes undergo various tests to determine their performance. Based on these, it is possible to choose the most suitable solution for your project.



Ability of the product to temporarily prevent the passage of water during construction and in case of accidental breakage and dislocation of the roof covering.

Passing this test is not sufficient to make the products suitable to replace the sealing layer and to withstand standing water for long periods.

This property indicates resistance to penetration of water. Standard **EN 13859-1/2** establishes the following classification:

- W1: High resistance to penetration of water
- W2: Medium resistance to penetration of water
- W3: Low resistance to penetration of water

Standard **EN 13859-1** and **2** establishes a requirement of resistance to 200 mm of static water pressure for 2 hours (classification W1). **NOTE**: for vapour control membranes and control layers, the word "compliant" is only used when the product meets the most severe requirements of the test indicated above (200 mm static water pressure for 2 hours).



UV STABILITY AND AGEING

The test method consists of exposing the specimens to continuous UV irradiation at elevated temperature for 336 hours. This corresponds to a total UV radiation exposure of 55 MJ/m<sup>2</sup>. It is conventionally regarded as equivalent to 3 months of average annual radiation in the Central European region.

For walls that do not exclude UV exposure with open joints, artificial ageing by UV must be extended over a period of 5000 hours.

Resistance to water penetration, tensile strength and elongation must be determined after artificial ageing.

Note: actual climatic conditions are variable and depend on the application context, so it is difficult to establish an exact match between artificial ageing tests and actual conditions. Test data cannot reproduce unforeseeable causes of the product's degradation and do not consider the stresses to which it will be subjected during its service life.



Force exercised both longitudinally and transversally, to determine the maximum load, expressed as N/50 mm.



Force exercised both longitudinally and transversally with the insertion of a nail, to determine the maximum load, expressed in N (Newton).

MD/CD: longitudinal/transversal values with respect to the direction the membrane rolls



Indicates the maximum elongation percentage the product can suffer before failure.

MASS PER UNIT AREA



Mass per unit area expressed in g/m<sup>2</sup>. High mass per unit area ensure great mechanical performance and superior abrasion resistance.





The polymers from which the synthetic membranes are made have been specially engineered to perform their function in the product and have excellent properties.

Certain stress causes, such as UV radiation, high temperatures and pollutants, affect these properties.

For example: the mechanical properties of a new membrane and a membrane exposed to ultraviolet (UV) radiation for 6 months are different. This is because UV attacks the chemical structure of certain polymers which, if not adequately protected by UV stabilisers, affect the properties of the finished product.



In order to maintain the properties of the product, it is important to choose it taking into account the conditions it will be exposed to throughout its life, from construction to operation, and to protect it as much as possible (the construction phase is a source of stress and accelerated ageing).

Durability is affected by the sum of these sources of stress: temperature, UV and pollutants.

### CORRELATION BETWEEN EXPERIMENTAL AND ACTUAL RESULTS

The data obtained from the ageing tests are comparative and not absolute data. The relationship between test exposure and outdoor exposure depends on a number of variables, and no matter how sophisticated the accelerated ageing test may be, it is not possible to find a conversion factor: in accelerated ageing tests the test conditions are constant, whereas during real outdoor exposure they are variable. The most that can be obtained from accelerated laboratory ageing data is a reliable indication of the relative strength ranking of the various materials.

In the reality of a construction site, a product tends to be subject to more than one cause of stress and the conditions are unpredictable. Each application context has specific conditions, with effects that are difficult to measure with a standard test.

Therefore, it is important to maintain large safety margins, for example by choosing products with better properties even where not specifically required.

Given highly variable weather and radiation conditions, the value may change based on the country and weather conditions at the time of application.

To maintain product integrity, we recommend minimising exposure to environmental factors during installation and considering the following factors:



SEASONAL VARIATIONS



PRODUCT ORIENTATION



LATITUDE





ALTITUDE

YEARLY RANDOM VARIATIONS OF THE WEATHER

# **MEMBRANES PROPERTIES**

			DEFENCE				E	BAR	RIER	2					C	LIM	A CC	тис	ROL	<del>8</del> V/	APO	R				
			DEFENCE ADHESIVE	DEFENCE ADHESIVE SPEEDY	DEFENCE ADHESIVE TRASPIR EVO	BARRIER NET SD40	BARRIER SD150	BARRIER ALU NET SD150	BARRIER ALU NET SD1500	<b>BARRIER ALU NET ADHESIVE 300</b>	<b>BARRIER ALU FIRE A2 SD2500</b>	VAPOR IN 120	VAPOR IN NET 140	VAPOR IN GREEN 200	CLIMA CONTROL 80	CLIMA CONTROL 105	<b>CLIMA CONTROL NET 145</b>	<b>CLIMA CONTROL NET 160</b>	VAPOR NET 110	VAPOR 140	VAPOR 150	VAPOR NET 180	VAPOR EVO 190	VAPOR 225	VAPOR ADHESIVE 260	
MONOLITHIC	Monolithic/Evo				<b>v</b>										~	<b>v</b>	<b>v</b>	<b>v</b>					<b>v</b>			
MICROPOR	Microporous/Sta	ndard	~	<b>v</b>		~	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	~	~	~	<b>v</b>					<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>		<b>v</b>	✓	
BITUMEN BASED	Bituminous																									
ADHESIVE	Self-adhesive		<b>v</b>	~	<b>v</b>					<b>v</b>															~	
SEE THROUGH	Translucent		<b>v</b>	~	<b>v</b>	~	<b>v</b>					~	~		~	<b>v</b>	<b>v</b>									
REFLECTIVE	Reflective							<b>v</b>	<b>v</b>	~	~															
STRONGER	Reinforcing grid					~		<b>v</b>	✓	<b>v</b>			~	<b>v</b>			<b>v</b>	✓	✓			<b>v</b>				
	Variable water vap transmission	pour													<b>v</b>	<b>v</b>	✓	✓								
	Permanent UV sta (see product data she	ability et)																								
	Mass per unit area [EN 1849]	g/m <sup>2</sup> oz/ft <sup>2</sup>	<b>220</b> 0.72	220 0.72	175 0.57	110 0.36	190 0.62	100 0.33	200 <i>0.66</i>	300 0.98	140 0.46	120 0.39	140 0.46	200 <i>0.66</i>	<b>80</b> 0.26	105 0.34	145 0.48	160 0.52	110 0.36	140 0.46	150 0.49	180 0.59	190 0.62	225 0.74	260 0.85	
	Water vapour transmission (Sd)	m	2,5	3,5	0,19	40	145	150	4000	4000	2500	30	30	7	0,15 5	0,1 20	0,15 5	0,5 5	5	10	13	10	5	4	19	
••••	[EN 1931/EN ISO 12572]	US Perm	1.4	1	18	0.087	0.024	0.023	0.001	0.001	0.001	0.140	0.140	0.500	23 0.7	35 0.175	23 0.7	7   0.7	0.70	0.350	0.269	0.350	0.70	0.874	0.184	
	Reaction to fire [EN 13501-1]	steel	E	E	E	F	E	E	B-s1,d0	B-s1,d0	A2-s1,d0	E	E	E	E	E	E	E	E	F	E	E	E	E	E	
	Tensile strength	N/50 mm	>120 >80	>120 >80	120 75	>220 >190	>206 >180	>230 >230	>400 >400	>400 >400	>960 >960	220 180	390 360	>250 >170	>120 >90	>175 >150	>440 >400	400 270	>200 >250	>230 >180	>250 >200	320 300	480 500	>380 >300	>250 >200	
(Filler	[EN 12311]	lbf/in	>14 >9	>14 >9	14 9	>25 >22	>24 >21	>26 >26	>46 >46	>46 >46	>110 >108	25 21	45 41	>29 >19	>14 >10	>20 >17	>50 >46	46 31	>23 >29	>26 >21	>29 >23	37 34	55 57	>43 >34	>29 >23	
Resist tearin [EN 1	Resistance to nail tearing MD/CD	Ν	>60 >65	>60 >65	50 70	>155 >145	>147 >165	>110 >110	>300 >300	>300 >300	>150 >150	160 205	280 260	>100 >130	>40 >40	>140 >150	>300 >250	240 250	>170 >170	>125 >145	>130 >150	250 290	265 320	>225 >300	>130 >150	
	[EN 12310]	lbf	>14 >15	>14 >15	11.2 15.7	>35 >33	>33 >37	>25 >25	>67 >67	>67 >67	>34 >34	36 46.1	62.9 58.5	>22 >29	>9 >9	>31 >34	>67 >56	54 56	>38 >38	>28 >33	>29 >34	56 65	60 72	>51 >67	>29 >34	
~	internal		<b>V</b>	✓	<b>V</b>	<b>v</b>	<b>V</b>	<b>v</b>	<b>V</b>	✓	<ul><li>✓</li></ul>	<b>v</b>	<	✓	<b>V</b>	✓	<b>V</b>	✓	<b>V</b>	✓	<b>V</b>	✓	<b>V</b>	✓	✓	
(7)	external		V	<b>V</b>	V				V	<b>V</b>								<b>V</b>	V	<b>V</b>	V	<b>V</b>	V	<b>V</b>	V	
	wall		V	V V	V	✓ ✓	V	V V	V	V V	V	✓ ✓	V	V V	V	V V	V	V V	V	V V	V	V V	V	V V	V	
						-		-		•		. ·								-				-		

										TR	ASF	PIR													B	YTU	М		
TRASPIR 95	TRASPIR 110	TRASPIR EVO UV 115	TRASPIR ALU 120	TRASPIR EVO 135	TRASPIR 135	TRASPIR 150	TRASPIR NET 160	TRASPIR EVO 160	TRASPIR 200	TRASPIR ALU 200	TRASPIR EVO SEAL 200	TRASPIR FELT UV 210	TRASPIR EVO UV 210	TRASPIR EVO 220	TRASPIR EVO UV ADHESIVE	<b>TRASPIR ADHESIVE 260</b>	<b>TRASPIR DOUBLE NET 270</b>	TRASPIR EVO 300	<b>TRASPIR DOUBLE EVO 340</b>	<b>TRASPIR WELD EVO 360</b>	TRASPIR ALU FIRE A2 430	TRASPIR METAL	BYTUM 400	BYTUM 750	BYTUM 1100	BYTUM 1500	BYTUM 2000	BYTUM BASE 2500	BYTUM SLATE 3500
		✓						<b>v</b>			✓	<b>v</b>	<b>v</b>	✓	<b>v</b>			✓	✓	✓									
<b>v</b>	✓		<b>v</b>		<b>v</b>	✓	✓		V	V						<b>v</b>	✓				<b>v</b>	<b>v</b>							
																							<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	~
															<b>v</b>	<b>v</b>												<b>v</b>	<b>v</b>
			<b>v</b>							<b>v</b>											<b>v</b>								
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		<b>v</b>										✓	<b>v</b>		<b>v</b>			<b>v</b>			<b>v</b>								✓
95	112	115	120	135	135	150	160	160	200	200	200	210	210	220	190	260	270	300	340	360	430	610	400	750	1100	1500	2000	2550	3500
0.31	0.37	0.38	0.39	0.44	0.44	0.49	0.52	0.52	0.66	0.66	0.66	0.69	0.69	0.72	0.62	0.85	0.88	0.98	1.11	1.18	1.41	1.67	1.31	2.46	3.60	4.92	6.55	8.36	11.47
 0,02	0,03	0,08	0,1	0,1	0,02	0,02	0,02	0,1	0,02	0,045	0,08	0,1	0,04	0,2	0,19	0,22	0,035	0,04	0,19	0,2	0,08	0,02	22	38	55	120	120	200	280
175	117	44	35	35	175	175	175	35	175	78	44	35	87	17	18	16	100	87	18	17	44	175	0.16	0.09	0.06	0.03	0.03	0.02	0.01
E	E	B-s1,d0	E	E	E	E	E	B-s1,d2	E	E	E	B-s1,d2	B-s1,d0	E	B-s1,d0		E	B-s1,d0	E	E	A2-s1,d0	E	E	E	E	E	E	E	E
210 105	250 165	150 110	240 210	200 160	280 190	350 210	420 420	280 220	360 270	350 225	300 220	380 420	300 200	385 315	150 110	315 250	650 800	380 250	605 455	420 490	3000 3200	325 225	500 400	500 400	650 500	500 400	500 400	400 300	400 300
24 12	29 19	17 13	27 24	23 18	32 22	40 24	48 48	32 25	41 31	40 26	34 25	43 48	34 23	44 36	17 13	36 29	74 91	43 29	69 52	48 56	343 365	37 26	57 46	57 46	74 57	57 46	57 46	46 34	46 34
75 90	115 135	130 170	110 110	160 190	135 170	190 225	390 360	180 200	230 270	200 200	260 340	220 210	120 120	345 425	130 170	255 260	750 550	160 190	415 500	310 280	580 450	185 195	200 200	200 200	230 230	150 200	150 200	120 120	120 120
17 20	26 30	29 38	25 25	36 42	30 38	43 51	88 81	40 45	52 61	45 45	59 76	50 47	27 27	78 96	29 38	57 59	169 124	36 43	93 112	70 63	130 101	42 44	45 45	45 45	52 52	34 45	34 45	27 27	27 27
<b>v</b>	✓	<b>v</b>		✓	✓	✓	✓	<b>v</b>	✓	<b>v</b>	✓	✓	<b>v</b>	<b>v</b>	✓	<b>v</b>	✓	<b>v</b>	✓	✓	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	<b>v</b>	
 <b>V</b>	✓ ✓	<b>V</b>	✓	V V	✓ ✓	√ √	✓ ✓	V V	✓ ✓	V V	✓ ✓	V V	<b>v</b>	✓ ✓	√ √	✓ ✓	✓ ✓	V V	✓ ✓	V V	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	V V	✓ ✓
<b>v</b>	<b>v</b>	<b>v</b>	✓	<b>v</b>	✓	v		<b>v</b>	*	<b>v</b>	<ul><li>✓</li></ul>	<b>v</b>	<b>v</b>	<b>v</b>	√ 	<b>v</b>		<b>v</b>			<ul><li>✓</li></ul>	<b>v</b>			-	•	-		

# **NATIONAL CERTIFICATIONS**



All Rothoblaas membranes comply with EU health, safety and environmental requirements. The CE marking indicates that the product has been evaluated by the manufacturer in accordance with the criteria specified by the harmonised standard.

Certain products have also been evaluated in accordance with national standards in order to certify or classify them according to local regulations. Certification or classification according to national standards helps differentiate products and provide more detailed information tailored to the specific needs of the national market.



# **NATIONAL CLASSIFICATIONS**

		А	CH	D	F	I	AUS	USA
		Önorm B4119 Önorm B 3667	SIA 232	ZVDH	DTU 31.2	UNI 11470	AS/NZS 4200.1	IRC
	BARRIER NET SD40	DB	V.v.u.	Dh	pare-vapeur	D/R2	Class 2	Class 1
œ	BARRIER SD150	DS	V.v.u.	Ds	pare-vapeur	B/R2	Class 1	Class 1
ЯË	BARRIER ALU NET SD150	DS	V.v.u.	Ds	pare-vapeur	D/R1	Class 1	Class 1
AR	BARRIER ALU NET SD1500	DS dd	V.v.o. H > 90mm	Dd	E1 Sd3 TR3	A/R3	Class 1	Class 1
	BARRIER ALU FIRE A2 SD2500	DS dd	V.v.u.	Dd	pare-vapeur	B/R3	Class 1	Class 1
	BARRIER ALU NET ADHESIVE 300	DS dd	V.v.u. V.v.o H> 90mm	Dd	E1 Sd3 TR3	A/R3	Class 1	Class 1
	VAPOR IN 120	DB	V.v.u.	Dh	pare-vapeur	D/R1	Class 2	Class 2
	VAPOR IN NET 140	DB	V.v.u.	Dh	pare-vapeur	C/R2	Class 2	Class 2
	VAPOR IN GREEN 200	DB	V.v.u.	Db	Bs dve	A/R1	Class 2	Class 2
	CLIMA CONTROL 80	-	V.v.u.	Fv   DIN 4108-3 DIN 68800-2	Bs dve	D/R1	Class 2 Class 3	Class 2 vp
ROL	CLIMA CONTROL 105	-	V.v.u.	Fv	Bs dve	D/R1	Class 2 Class 4	Class 2
INT	CLIMA CONTROL NET 145	-	V.v.u.	Fv   DIN 4108-3 DIN 68800-2	Bs dve	B/R3	Class 2 Class 3	Class 2
	CLIMA CONTROL NET 160	-	V.v.u. V.v.o. H. > 90mm	Fv   DIN 4108-3	Bs dve F1 Sd2 TR2	B/R3	Class 2	Class 2
M	VAPOR NET 110	DB	V.v.u. V.v.u.	Db	Bs dve F1 Sd2 TR1	D/R1	Class 2	Class 2
D C	VAPOR 140	DB	V.v.u.	Db	Bs dve	C/R1	Class 2	Class 2
OR 8	VAPOR 150	DB	V.v.o. H > 90mm V.v.u.	Dh	Bs dve	B/R1	Class 2	Class 2
AP/	VAPOR NET 180	DB	V.v.u.	Db	Bs dve	B/R3	Class 2	Class 2
	VAPOR EVO 190	DB	V.v.u.	Db	Bs dve	B/R3	Class 2	Class 2
	VAPOR 225	DB	V.v.o. H > 90mm V.v.u.	Db	Bs dve	A/R3	Class 2	Class 2
	VAPOR ADHESIVE 260	DB	V.v.o. H > 90mm V.v.u.	Dh	pare-vapeur	A/R1	Class 2	Class 2
			V.V.O. H > 90mm		EI SOS TRI			
	TRASPIR 95	-	-	- USB-A	- F1 Sd1 TR1	-	Class 4	vp
		-	UD (fU)	UDB-B	E450 Jf C2	D/R1	Class 4	vp
	TRASPIR EVO UV 115	-	-	-	E450 J0 C3	-	Class 4	vp
		-	-	USB-A	E450 JT CI E1 Sd1 TR1	- C/D1	Class 4	vp
		-		UDB-B USB-A	E450 Jf C1 E1 Sd1 TR1	C/RI	Class 4	vþ
	TRASPIR EVO 135	-	UD (fU)	USB-B USB-A	E450 Jf C1 E1 Sd1 TR2	C/R1	Class 4	vp
	TRASPIR 150	UD Typ I	UD (wU)	UDB-A	E600 Jf C1	B/R2	Class 4	vp
	TRASPIR NET 160	US	UD (g)	UDB-A	E1 Sd1 TR3	B/R3	Class 4	vp
	TRASPIR EVO 160	UD Typ I	UD (wU)	UDB-A	E600 Jf C2	B/R2	Class 4	vp
	TRASPIR 200	US	UD (g)	UDB-A	E1 Sd1 TR2	A/R2	Class 4	vp
멑	TRASPIR ALU 200	UD Typ T US	UD (g)	UDB-A	E1 Sd1 TR2	A/R2	Class 4	vp
SΡ	TRASPIR EVO SEAL 200	UD Typ I	UD (g)	USB-A UDB-A	E1 Sd1 TR2 E600 Jf C2	A/R3	Class 4	vp
TR/	TRASPIR FELT UV 210	UD Typ I	UD (g)	USB-A UDB-A	E1 Sd1 TR2 F600 J0 C3	A/R2	Class 4	vp
Ċ	TRASPIR EVO UV 210	-	-	-	E600 J0 C3	-	Class 4	vp
	TRASPIR EVO 220	UD Typ II US	UD (g)	USB-A UDB-A	E1 Sd1 TR2 E600 Jf C2	A/R3	Class 3	vp
	TRASPIR DOUBLE NET 270	UD Typ I US	UD (g)	USB-A UDB-A	E1 Sd1 TR3	A/R3	Class 4	vp
	TRASPIR EVO 300	UD Typ I US	UD (g)	USB-A UDB-A	E1 Sd1 TR1 E600 J0 C3	A/R2	Class 4	vp
	TRASPIR DOUBLE EVO 340	UD Typ II US	UD (g)	USB-A UDB-A	E1 Sd1 TR3 E600 Jf C2	A/R3	Class 3	vp
	TRASPIR WELD EVO 360	UD Typ II US	UD (g)	USB-A UDB-A	E1 Sd1 TR3	A/R3	Class 3	vp
	TRASPIR ALU FIRE A2 430	UD Typ I US	UD (g)	USB-A UDB-A	E1 Sd1 TR3 F600 J0 C3	A/R3	Class 4	vp
	TRASPIR METAL	UD Typ I	UD (g)	USB-A UDB-A	E1 Sd1 TR2 F600 Jf C1	A/R2	Class 4	vp
	TRASPIR ADHESIVE 260	UD Typ I	UD (g)	USB-A	E1 Sd1 TR2	A/R3	Class 3	vp
	TRASPIR EVO UV ADHESIVE	UD Typ I	-	USB-B	E450 Jf C1	B/R1	Class 4	vp
		03						
	BYTUM 400	E-d0 nsk	V.V.O. H > 90mm UD (g)	USB-A	E1 Sd3 TR2	P SR2 A	Class 2	Class 2
	BYTUM 750	E-d0 nsk	UD (g)	UDB-A	E1 Sd3 TR2	P SR2 A	Class 2	Class 1
ξ	BYTUM 1100	E-d0 nsk	V.v.o. н > 90mm UD (g)	UDB-A	E1 Sd3 TR2	P SR3 A	Class 2	Class 1
IYTL	BYTUM 1500	E-d0 nsk	UD (g)	UDB-A	E1 Sd3 TR2	P SR3 A	Class 1	Class 1
ш	BYTUM 2000	E-d0 nsk	v.v.o. н > 90mm UD (g)	UDB-A	E1 Sd3 TR2	P SR3 A	Class 1	Class 1
	BYTUM BASE 2500	E-d0 nsk	UD (fU)	UDB-C	E1 Sd3 TR1	P SR1 A	Class 1	Class 1
	BYTUM SLATE 3500	E-d0 nsk	v.v.o. UD (fU)	UDB-C	E1 Sd3 TR1	P SR1 A	Class 1	Class 1

# MEMBRANES ADHESIVE

## ADHESIVE MEMBRANES

DEFENCE ADHESIVE SELF-ADHESIVE PROTECTIVE MEMBRANE FOR BUILDING ELEMENTS
DEFENCE ADHESIVE SPEEDY SELF-ADHESIVE PROTECTIVE MEMBRANE WITHOUT RELEASE LINER
<b>DEFENCE ADHESIVE TRASPIR EVO</b> SELF-ADHESIVE BREATHABLE MONOLITHIC MEMBRANE186
<b>DEFENCE ADHESIVE REMOVABLE</b> <i>REMOVABLE SELF-ADHESIVE PROTECTIVE MEMBRANE</i> 188
BARRIER ALU NET ADHESIVE 300 SELF-ADHESIVE REFLECTIVE VAPOUR BARRIER SD > 1500 M
VAPOR ADHESIVE 260 SELF-ADHESIVE VAPOUR CONTROL MEMBRANE192
<b>TRASPIR ADHESIVE 260</b> BREATHABLE SELF-ADHESIVE MEMBRANE
<b>TRASPIR EVO UV ADHESIVE</b> SELF-ADHESIVE BREATHABLE MONOLITHICMEMBRANE RESISTANT TO UV RAYS196

# MAXIMUM PROTECTION

### PREFABRICATION

Installing self-adhesive membranes in the factory is advantageous in many ways:

- the membrane is applied horizontally rather than vertically to a panel
- installation is facilitated because it is carried out in a cleaner environment than at the construction site
- once on the construction site, the panel is already ready, without the need for intermediate processing

### PROTECTION

Timber panels are protected from the weather both during transport and at the construction site. Membranes prevent damage caused by water, moisture or other unforeseen events, improving the effectiveness of the building construction process.

Because they are self-adhesive and without the need for mechanical fastening and additional sealing tapes, installation is immediate and quick even on the construction site.



Easy installation without the need for tapes



Fast and secure adhesion

### ALL THE BENEFITS

- TIME SAVINGS: prefabricated is faster
- ECONOMIC SAVINGS: less assembly labour, less risk of damage
- SAFETY: membranes are non-slip, high weight, suitable for different application contexts
- LIFTING POSSIBILITY: membranes are also suitable for vacuum lifting systems (after testing in the factory)
- CUSTOMIZATION: All self-adhesive membranes are customizable in terms of brand, weight and size



Complete protection from water damage and weathering



Non-slip and panel protection


# ADHESIVE MEMBRANES

### **DEFENCE ADHESIVE**

Water vapour permeability Composition Type of glue

EVA/PP/glue/liner repositionable within minutes

### **DEFENCE ADHESIVE SPEEDY**

Water vapour permeability Composition Type of glue

EVA/PP/glue repositionable within minutes

### **DEFENCE ADHESIVE TRASPIR EVO**

Water vapour permeability Composition Type of glue

PU/PP/glue/liner breathable, very stable and durable

### DEFENCE ADHESIVE REMOVABLE

Water vapour permeability Composition PP/glue/liner Sizes available Type of glue removable 1,55/0,385 m

### **BARRIER ALU NET ADHESIVE 300**

Water vapour permeability PET/AL/PE/grid/PE/glue/liner repositionable within minutes

### **VAPOR ADHESIVE 260**

Composition

Type of glue

Water vapour permeability Composition PP/PP/PP/glue/liner Sizes available 1.45/0.36 m Type of glue breathable, very stable and durable

### **TRASPIR ADHESIVE 260**

Water vapour permeability Composition Type of glue

PP/PP/PP/glue/liner	Sizes available
breathable, very stable and durable	1,45/0,36 m

### TRASPIR EVO UV ADHESIVE

Water vapour permeability Composition Type of glue

PP/PU/glue/liner breathable, very stable and durable



B-s1,dO

B-s1,dO

Sizes available

1,45/0,36 m

Sizes available

1,45/0,36 m

Sizes available

1.55/0.99/0.49/0.385 m



1,55/0,99/0,49/0,385 m



Sizes available

1,55/0,49/0,385 m

BREATHABLE

UV PROTECTION

(Ro

RADON BARRIER

333

BREATHABL

BREATHABLE

SEE THROUGH

REMOVABLE

BARRIER

















) 🖈

OPEN JOIN 5000h UV





# DEFENCE ADHESIVE

### SELF-ADHESIVE PROTECTIVE MEMBRANE FOR BUILDING ELEMENTS

### EXTREMELY TRANSPARENT

The product, once applied, is invisible and allows both the markings of the powder tracer on the panel and the mounting holes to be easily seen. The membrane protects the timber without interfering with either handling or site operations.

### WATERPROOF AND NON-SLIP

The surface treatment makes the product waterproof. On site, the membrane resists abrasion and trampling.

### 12-WEEK GUARANTEED PROTECTION

With the self-adhesive surface of the membrane, installation is quick and easy. The protection of building elements is guaranteed for 12 weeks, and if an error is made during installation, the membrane can be easily repositioned and reapplied within the first few minutes.

### COMPOSITION

- (1) top layer: EVA coating
- (2) bottom layer: non-woven PP fabric
- (3) glue: acrylic dispersion without solvents
- (4) separation layer: pre-cut removable plastic film

### CODES AND DIMENSIONS

CODE	description	liner	н	L	А	Н	L	Α	
		[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	B
DEFA200	DEFENCE ADHESIVE 1,55 m	150/1300	1,55	50	77,5	5'1	164	834	50
DEFAS200	DEFENCE ADHESIVE STRIPE 0,385 m	192,5/192,5	0,385	50	19,25	1' 3 1/8	164	207	88
DEFA200490	DEFENCE ADHESIVE 50 cm	245/245	0,49	50	24,5	1' 7 1/4	164	264	30
DEFA200990	DEFENCE ADHESIVE 1 m	495/495	0,99	50	49,5	3' 3	164	533	16

Available in different widths on request.



### WATERPROOF, VAPOUR PERMEABLE

The special polymer treatment makes the membrane impermeable to water and air, but with good vapour permeability.



CLT



CE



Properties	standard	value	USC units
Mass per unit area	EN 1849-2	220 g/m <sup>2</sup>	0.72 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,3 mm	12 mil
Water vapour transmission (Sd)	EN 1931	2,5 m	1.4 perm
Tensile strength MD/CD	EN 12311-1	> 120/80 N/50 mm	> 14/9 lbf/in
Elongation MD/CD	EN 12311-1	> 40/40 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 60/65 N	> 14/15 lbf
Watertightness	EN 1928	compliant	-
Resistance to penetration of air	EN 12114	< 0,02 m³/(m2h50Pa)	< 0.001 cfm/ft2 at 50Pa
Reaction to fire	EN 13501-1	class E	-
Fire resistance rating on plain CLT joint (120 mm) 3 mm joint $^{(\star)}$	EN 1363-4	EI 90	-
Resistance to temperature	-	-40/+80 °C	-40/176 °F
Flexibility at low temperatures	EN 1109	- 40°C	-40 °F
UV stability	EN 13859-1/2	336h (3 months)	
Exposure to weather <sup>(1)</sup>	-	12 weeks	-
Density	-	approx. 740 kg/m <sup>3</sup>	46 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 10000	approx. 12.5 MNs/g
Adhesion strength on OSB at 90° after 10 min	EN 29862	2 N/10 mm	1.1 lbf/in
Adhesion strength on OSB at 180° after 10 min	EN 29862	2 N/10 mm	1.1 lbf/in
Adhesion strength (average) on DEFENCE ADHESIVE after 24h	EN 12316-2	13 N/50 mm	1.5 lbf/in
Shear adhesion strength of the joint on DEFENCE ADHESIVE after 24h <sup>(2)</sup>	EN 12317-2	95 N/50 mm	10.8 lbf/in
Storage temperature <sup>(3)</sup>	-	-5/+35 °C	23/95 °F
Application temperature	-	+5/+25 °C	41/77 °F
Solvents	-	no	

 $^{(1)}$  For use as temporary protection of construction elements, not as a long-term functional layer.  $^{(2)}_{(2)}$  Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.

<sup>(2)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 r (<sup>3)</sup>Store the product in a cool, dry place for no more than 12 months.

(\*)For full details and tested configurations, please refer to the manual or contact our technical department.

Waste classification (2014/955/EU): 08 04 10.

### FIRE TIGHTNESS AND INSULATION

Tests carried out at the CSI laboratory in accordance with EN 1363-4 enabled characterisation of the fire behaviour of several CLT joints sealed with Rothoblaas products.

TICUTNESS (E)	Cotton swab	. Of minutes	
TIGHTNESS (E)	Persistent flame	> 96 minutes	
INSULATION (I)	Time	> 96 minutes	EI 90





### PREFABRICATION

Ideal product for prefabrication: installation on the panel is improved and protection of the building element during transport and assembly is maximized. Highly flexible and repositionable within the first few minutes, the membrane ensures sealing of complex surfaces.

# DEFENCE ADHESIVE SPEEDY

### SELF-ADHESIVE PROTECTIVE MEMBRANE WITHOUT RELEASE LINER

### SUSTAINABLE

The lack of a release liner means less waste to dispose of.

### PRACTICAL AND SAFETY

With the self-adhesive surface of the membrane, installation is quick and easy. The protection of building elements is guaranteed for 12 weeks, and if an error is made during installation, the membrane can be easily repositioned and reapplied within the first few minutes.

### IMPERCEPTIBLE

The product, once applied, allows both the markings of the powder tracer on the panel and the mounting holes to be easily seen.

The membrane protects the timber without interfering with either handling or site operations.

### COMPOSITION

CODE

DEFASPEEDY

DEFASPEEDY385

DEFASPEEDY490

Available in different widths on request

(1) top layer: EVA coating

CODES AND DIMENSIONS

- (2) bottom layer: non-woven PP fabric
- (**3**) glue: acrylic dispersion without solvents

description

DEFENCE ADHESIVE SPEEDY 1,55 m

DEFENCE ADHESIVE SPEEDY 50 cm

DEFENCE ADHESIVE SPEEDY 0,385 m

### FAST INSTALLATION

Н

[ft]

5'1

1'31/8

1'71/4

н

[m]

1,55

0,385

0,49

L

[m]

50

50

50

А

[m<sup>2</sup>]

77,5

19,25

24,5

liner

[mm]

150/1300

192,5/192,5

245/245

The strip versions and lack of release liner ensure quick and reliable sealing, even when used in conjunction with DEFENCE ADHESIVE.

L

[ft]

164

164

164

Α

834

22

50

30

### WATERPROOF AND NON-SLIP

The surface treatment makes the product waterproof. On site, the membrane resists abrasion and trampling.

### NO SEE LINER THROUGH





Properties	standard	value	USC units
Mass per unit area	EN 1849-2	220 g/m <sup>2</sup>	0.72 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,3 mm	12 mil
Water vapour transmission (Sd)	EN 1931	3,5 m	1 US Perm
Tensile strength MD/CD	EN 12311-1	> 120/80 N/50 mm	> 14/9 lbf/in
Elongation MD/CD	EN 12311-1	> 40/40 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 60/65 N	> 14/15 lbf
Watertightness	EN 1928	compliant	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m2h50Pa)	< 0.001 cfm/ft2 at 50Pa
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-40/+80 °C	-40/176 °F
Flexibility at low temperatures	EN 1109	- 40°C	-40 °F
UV stability	EN 13859-1/2	336h (3 months)	-
Exposure to weather <sup>(1)</sup>	-	12 weeks	-
Density	-	approx. 740 kg/m <sup>3</sup>	46 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 11600	approx. 17.5 MNs/g
Adhesion strength on OSB at 90° after 10 min	EN 29862	2 N/10 mm	1.1 lbf/in
Adhesion strength on OSB at 180° after 10 min	EN 29862	2 N/10 mm	1.1 lbf/in
Shear adhesion strength of the joint on DEFENCE ADHESIVE after 24h <sup>(2)</sup>	EN 12317-2	80 N/50 mm	9.1 lbf/in
Storage temperature <sup>(3)</sup>	-	-5/+35 °C	23/95 °F
Application temperature	-	+5/+25 °C	41/77 °F
Solvents	-	no	-

<sup>(1)</sup>For use as temporary protection of construction elements, not as a long-term functional layer.
 <sup>(2)</sup>Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
 <sup>(3)</sup> Store the product in a cool, dry place for no more than 6 months.

Waste classification (2014/955/EU): 08 04 10.

### PRODUCT RANGE







### DEFASPEEDY

DEFASPEEDY385

DEFASPEEDY490

### RELATED PRODUCTS

### MEMBRANE ROLL

UNWINDER FOR MEMBRANES



See the product on page 389.

### PREFABRICATION

Thanks to MEMBRANE ROLL, applying the product to the panel is effortless, with guaranteed protection during transport and assembly.



# DEFENCE ADHESIVE TRASPIR EVO

# SELF-ADHESIVE BREATHABLE MONOLITHIC MEMBRANE

### MONOLITHIC

The homogeneous and continuous monolithic functional layer provides maximum protection against the passage of water and high breathability. The special compound ensures significant weather resistance and excellent durability over time.

### BREATHABLE

Thanks to the patented glue, the membrane remains perfectly breathable even when fully bonded, allowing any wet elements to dry out.

### PRACTICAL

COMPOSITION

(1)

(**3**)

(4)

Easy to install thanks to the semi-transparent structure that allows the underlying structure to be visible.

top layer: monolithic PU coated breathable film

glue: breathable, durable and solvent-free

release liner: pre-cut removable plastic film



**CE** EN 13859-1/2

### 

CODES AND DIMENSIONS

(2) bottom layer: non-woven PP fabric

CODE	description	liner H		L	А	Н	L	Α	
		[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
DEFATRASP	DEFENCE ADHESIVE TRASPIR 1,55 m	150/1400	1,55	50	77,5	5'1''	164	834	25
DEFATRASP385	DEFENCE ADHESIVE TRASPIR 0,385 m	192,5/192,5	0,385	50	19,25	1'3"	164	207	48
DEFATRASP490	DEFENCE ADHESIVE TRASPIR 50 cm	245/245	0,49	50	24,5	1'7" 1/4	164	264	24
DEFATRASP990	DEFENCE ADHESIVE TRASPIR 1 m	495/495	0,99	50	49,5	3' 3"	164	533	24

Available in different widths on request



### SAFETY

The PU top layer provides water impermeability, excellent durability and resistance to construction site stresses.

### PROTECTION

DEFENCE ADHESIVE TRASPIR is essential to protect the elements of the structure both during transport and on the construction site. The hygrothermal behaviour of structural components is maintained by applying the breathable, monolithic membrane.



Properties	standard	value	USC units
Mass per unit area	EN 1849-2	175 g/m <sup>2</sup>	0.57 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,35 mm	12 mil
Water vapour transmission (Sd)	EN 1931	0,19 m	18 US Perm
Tensile strength MD/CD	EN 12311-1	120/75 N/50 mm	14/9 lbf/in
Elongation MD/CD	EN 12311-1	65/75 %	-
Resistance to nail tearing MD/CD	EN 12310-1	50/70 N	11.2/15.7 lbf
Watertightness	EN 1928	W1	-
After artificial ageing			
- watertightness at 100°C	EN 1297/EN 1928	W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	> 60/40 N/50 mm	> 7/5 lbf/in
- elongation MD/CD	EN 1297/EN 12311-1	> 30/40 %	-
Reaction to fire	EN 13501-1	E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40°C	-40 °F
Resistance to temperature	-	-40/+100 °C	-40/+212 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	1000h (8 months)	-
Exposure to weather <sup>(2)</sup>	-	14 weeks	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 580 kg/m <sup>3</sup>	approx. 36 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 630	approx. 0.95 MNs/g
Adhesion strength on OSB at 90° after 10 min	EN 29862	2 N/10 mm	1.1 lbf/in
Adhesion strength on OSB at 180° after 10 min	EN 29862	4,5 N/10 mm	2.6 lbf/in
Adhesion strength (average) on DEFENCE ADHESIVE TRASPIR after 24h <sup>(3)</sup>	EN 12316-2	16 N/50 mm	1.8 lbf/in
Shear adhesion strength of the joint on DEFENCE ADHESIVE TRASPIR after 24h <sup>(4)</sup>	EN 12317-2	150 N/50 mm	17 lbf/in
Storage temperature <sup>(5)</sup>	-	+5/+30 °C	+41/+86 °F
Application temperature	-	-5/+35 °C	-23/+95 °F
Solvents	-	no	_

(1)Laboratory ageing tests are not able to reproduce the unpredictability of the product's degradation or the stresses to which it will be subjected during its service life. To ensure its integrity, it is recommended to limit the time of exposure to the weather during the construction phase to a maximum of 10 weeks. According to DTU 31.2 P1-2 (France), UV ageing of 1,000 hours allows a maximum exposure of 3 months during the construction phase.

(2) For use as temporary protection of construction elements, instead of as a long-term functional layer.
 (3) Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
 (4) Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
 (5) Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.



### SPECIAL GLUE

The acrylic dispersion glue has a specific formulation to ensure breathability and does not alter the properties of the functional film of the membrane. The special glue provides long-term performance, UV stability and water resistance, offering optimal adhesion at both high and low temperatures.

# DEFENCE ADHESIVE REMOVABLE

# REMOVABLE SELF-ADHESIVE PROTECTIVE MEMBRANE

### PROTECTION

Protects building elements from dust, dirt and impurities, preserving the original appearance of materials.

### **UV PROTECTION**

Prevents colour variation and timber yellowing during construction, maintaining its appearance unaltered.

### REMOVABLE

The special removable glue allows for quick and easy removal of the membrane at the end of construction.



- (1) top layer: PE film
- (2) glue: removable glue
- (3) release liner: pre-cut removable plastic film

### CODES AND DIMENSIONS

CODE	description	liner	Н	L	А	Н	L	Α
		[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]
DEFAREM	DEFENCE ADHESIVE REMOVABLE 1,55 m	150/1400	1,55	50	77,5	5'1''	164	834
DEFAREM385	DEFENCE ADHESIVE REMOVABLE 0,385 m	192,5/192,5	0,385	50	19,25	1'3"	164	207

Available in different widths on request



### EFFECTIVE

The slightly translucent carrier reveals the wood texture while shielding the timber against UV rays.

### CONSTRUCTION SITE

Essential for protecting visible elements during construction without compromising their visual appeal.





### **RECOMMENDATIONS FOR INSTALLATION: DEFENCE ADHESIVE**



APPLICATION ON FLOORS

















# **BARRIER ALU NET ADHESIVE 300**



SELF-ADHESIVE REFLECTIVE VAPOUR BARRIER Sd > 1500 m

### FAST INSTALLATION

The fully self-adhesive surface of the membrane allows fast and safe installation without compromising performance.

### COMPLETE BARRIER

Maximum resistance to steam and radon gas penetration thanks to its unique composition. The membrane minimises radon penetration, reducing health risks.





### COMPOSITION

- (1) coating: PET film
- (2) top layer: aluminium film
- (3) middle layer: PE film
- (4) reinforcing layer: reinforcing PE grid
- (5) bottom layer: PE film
- (**6**) glue: acrylate dispersion without solvents
- (7) separation layer: pre-cut removable plastic film

### CODES AND DIMENSIONS

CODE	description	mass per unit area liner		н	L	А	Н	L	Α	B
		[g/m <sup>2</sup> ]	[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BARALUA300	BARRIER ALU NET ADHESIVE 300	300	150/1300	1,45	50	72,5	4.8	164	780	20
BARALUAS300	BARRIER ALU NET ADHESIVE 300 STRIPE	300	175/175	0,35	50	17,5	13.8	164	188	75

Available in different widths on request.



### REFLECTIVE

Thanks to its ability to reflect up to 70% of the heat, the membrane improves the thermal performance of the construction panels.

### MECHANICAL STRENGTH

The composition of the product and the reinforcement grid guarantee excellent dimensional stability even under mechanical stresses.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	300 g/m <sup>2</sup>	0.98 oz/ft <sup>2</sup>
Thickness <sup>(1)</sup>	EN 1849-2	0,15 mm	6 mil
Water vapour transmission (Sd) <sup>(2)</sup>	EN 1931/EN ISO 12572	4000 m	0.001 US Perm
Tensile strength MD/CD	EN 12311-2	>400/400 N/50 mm	46/46 lbf/in
Elongation MD/CD	EN 12311-2	>10/10 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 300/300 N	67/67 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class B-s1, d0	-
Resistance to penetration of air	EN 12114	<0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
UV resistance <sup>(3)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,39 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1700 J/(kg·K)	-
Density	-	approx. 600 kg/m <sup>3</sup>	approx. 37 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 10000000	approx. 20000 MNs/g
Radon diffusion coefficient D	ISO/TS 11665-13	< 3,5 e <sup>-15</sup> m <sup>2</sup> /s	-
Radon diffusion length l	ISO/TS 11665-13	< 0,000041 m	-
Reflectivity	EN 15976	approx. 70 %	-
Equivalent thermal resistance with 50 mm air gap	150 69/6	R <sub>g,0,025</sub> : 0,801 (m <sup>2</sup> K)/W	4.56 h·ft <sup>2.</sup> °F/BTU
(ε <sub>other surface</sub> 0.025-0.88)	130 0940	R <sub>g,0,88</sub> : 0,406 (m <sup>2</sup> K)/W	2.30 h·ft <sup>2</sup> .°F/BTU
Adhesion strength on OSB at 90° after 10 min	EN 29862	2 N/10 mm	1.1 lbf/in
Adhesion strength on OSB at 180° after 10 min	EN 29862	4,5 N/10 mm	2.6 lbf/in
Shear adhesion strength of the joint on BARRIER ALU NET ADHESIVE 300 after 24h <sup>(4)</sup>	EN 12317-2	180 N/50 mm	20 lbf/in
Adhesion strength (average) on BARRIER ALU NET ADHESIVE 300 after 24h <sup>(5)</sup>	EN 12316-2	25 N/50 mm	2.9 lbf/in
Storage temperature <sup>(6)</sup>	-	5/25 °C	41/77 °F
Application temperature	-	-5/35° C	23/95°F
Solvents	-	no	-

<sup>(1)</sup>The thickness at the grid is 0,45mm (18 mil).

<sup>(2)</sup>Total barrier in accordance with ZVDH classification (Germany) with a minimum guaranteed value exceeding 1500 m.

(3) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 4 weeks.
 (4) Minimum required value according to DTU 31.2 P1-2: 40N/50 mm.

<sup>(5)</sup>Minimum required value according to DTU 31.2 P1-2: 25 N/50 mm.

<sup>(6)</sup>Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

### DETERMINATION OF THE RADON DIFFUSION COEFFICIENT

Radon is an invisible, odourless gas found in soil that can seep through building foundations, accumulating indoors and posing a health risk to occupants.

BARRIER ALU NET ADHESIVE 300 serves as an effective radon gas barrier, ensuring a safe and healthy environment.

Rn diffusion coefficient D	3,5·10 <sup>-15</sup> (m <sup>2</sup> /s)	Rn
Rn diffusion length l	4,1·10 <sup>-5</sup> (m)	
Rn resistance R <sub>Rn</sub>	179759 (Ms/m)	RADON BARRIER

BARRIER ALU NET ADHESIVE 300 is made from the same membrane as BARRIER ALU NET SD1500, making the results applicable to this product also.

### RELATED PRODUCTS



ALU BUTYL BAND page 142



BLACK BAND page 144







PRIMER SPRAY page 112 BYTUM SPRAY page 48

# **VAPOR ADHESIVE 260**

# SELF-ADHESIVE VAPOUR CONTROL MEMBRANE

### SELF-ADHESIVE

Thanks to the formula of the new generation glue, the membrane ensures good adhesion even on rough OSB.

### SECURE SEALING

COMPOSITION

(1)

(2)

(3)

(4)

(5)

The adhesive surface prevents the formation of airflow behind the membrane in case of accidental breakage or failure to seal.

### VERSATILE

It offers a solution both as protection during construction and as an effective and safe vapour control membrane.





CE



### CODES AND DIMENSIONS

top layer: non-woven PP fabric

middle layer: vapour control PP film

bottom layer: non-woven PP fabric

glue: breathable, durable and solvent-free

separation layer: pre-cut removable plastic film

CODE	description	liner	Н	L	А	Н	L	Α	
		[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	B
VA260	VAPOR ADHESIVE 260	150/1300	1,45	50	72,5	4.8	164	780	16
VAS260	VAPOR ADHESIVE 260 STRIPE	180/180	0,36	50	18	1.18	164	194	30

Available in different widths on request.



### RAPIDITY

The fully self-adhesive surface allows fast and safe installation and does not compromise the performance of the product.

### CONSTRUCTION SITE

During construction, it is crucial to protect the structure, especially if it will remain exposed after completion. VAPOR ADHESIVE 260 provides excellent protection.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	260 g/m <sup>2</sup>	0.85 oz/ft <sup>2</sup>
Thickness	EN 1849-2	approx. 0,6 mm	approx. 24 mil
Water vapour transmission (Sd)	EN 1931	25 m	0.14 US Perm
Tensile strength MD/CD	EN 12311-2	> 250/200 N/50 mm	43/34 lbf/in
Resistance to nail tearing MD/CD	EN 12310-1	> 130/150 N	29/34 lbf
Watertightness	EN 1928	compliant	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m³/(m²h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336 h (3 months)	-
Thermal conductivity (λ)	-	approx. 0,3 W/(m K)	0.17 BTU/h·ft·°F
Specific heat	-	approx. 1800 J/(kg·K)	-
Density	-	approx. 435 kg/m <sup>3</sup>	27 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 31600	approx. 95 MNs/g
Adhesion strength on OSB at 90° after 10 min	EN 29862	2,5 N/10 mm	1.4 lbf/in
Adhesion strength on OSB at 180° after 10 min	EN 29862	3,5 N/10 mm	2.0 lbf/in
Adhesion strength (average) on VAPOR ADHESIVE 260 after $24h^{(2)}$	EN 12316-2	15 N/50 mm	1.7 lbf/in
Shear adhesion strength of the joint on VAPOR ADHESIVE after $24h^{(3)}$	EN 12317-2	135 N/50 mm	15.4 lbf/in
Storage temperature <sup>(4)</sup>	-	5/30 °C	41/86 °F
Application temperature	-	-5/35 °C	23/95 °F

(1) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks.
 (2) Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
 (3) Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
 (4) Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)	ASTM E96/ E96M	0.2 US Perm

### RELATED PRODUCTS







PRIMER SPRAY page 112





### SPECIAL GLUE

The acrylic dispersion glue has a specific formulation to prevent altering the vapour control membrane functions of the functional film inside the membrane.

The special glue provides long-term performance, UV stability and water resistance, offering optimal adhesion at both high and low temperatures.

# **TRASPIR ADHESIVE 260**

### **BREATHABLE SELF-ADHESIVE MEMBRANE**

### SELF-ADHESIVE

Thanks to the new generation glue, the membrane ensures good adhesion even on rough OSB.

### SECURE SEALING

The adhesive surface prevents the formation of airflow behind the membrane in case of accidental breakage or failure to seal.

### **BREATHABLE**

COMPOSITION

(2)

(3) (4)

(5)

Thanks to the patented glue, the membrane remains perfectly breathable even when fully bonded.



CE



### CODES AND DIMENSIONS

(1) top layer: non-woven PP fabric

middle layer: PP breathable film

bottom layer: non-woven PP fabric

release liner: removable plastic film

glue: breathable, durable and solvent-free

CODE	description	liner	н	L	А	Н	L	Α	
		[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TA260	TRASPIR ADHESIVE 260	150/1300	1,45	50	72,5	5	164	780	16
TAS260	TRASPIR ADHESIVE 260 STRIPE	180/180	0,36	50	18	1.18	164	194	30

Available in different widths on request.



### SPECIAL GLUE

The glue is formulated specifically to ensure breathability while preserving the membrane's properties. The special glue provides long-term performance, UV stability and water resistance, offering optimal adhesion at both high and low temperatures.

### CONSTRUCTION SITE

During construction, it is crucial to protect the structure, especially if it will remain exposed after completion. TRASPIR ADHESIVE 260 provides excellent protection.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	260 g/m <sup>2</sup>	0.85 oz/ft <sup>2</sup>
Thickness	EN 1849-2	approx. 0,6 mm	approx. 24 mil
Water vapour transmission (Sd)	EN 1931	0,18 m	19 US Perm
Tensile strength MD/CD	EN 12311-1	315/250 N/50 mm	36/29 lbf/in
Elongation MD/CD	EN 12311-1	61/66 %	-
Resistance to nail tearing MD/CD	EN 12310-1	255/260 N	57/58 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	295/225 N/50 mm	34/26 lbf/in
- elongation	EN 1297/EN 12311-1	45/47 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-30/80 °C	-22/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity ( $\lambda$ )	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	435 kg/m <sup>3</sup>	approx. 27 lbm/ft <sup>3</sup>
Water vapour resistance factor (μ)	-	approx. 300	approx. 0.9 MNs/g
Adhesion strength on OSB at 90° after 10 min	EN 29862	2,5 N/10 mm	1.4 lbf/in
Adhesion strength on OSB at 180° after 10 min	EN 29862	3,5 N/10 mm	2.0 lbf/in
Adhesion strength (average) on TRASPIR ADHESIVE 260 after 24h <sup>(2)</sup>	EN 12316-2	16 N/50 mm	1.8 lbf/in
Shear adhesion strength of the joint on TRASPIR ADHESIVE after 24h <sup>(3)</sup>	EN 12317-2	145 N/50 mm	16.5 lbf/in
Storage temperature <sup>(4)</sup>	-	5/30 °C	41/86°F
Application temperature	-	-5/35 °C	23/95 °F
Solvents	-	no	-

(1) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its (2) Minimum required value according to DTU 31.2 P1-2 (France): 15 N/50 mm.
 (3) Minimum required value according to DTU 31.2 P1-2 (France): 40 N/50 mm.
 (4) Store the product in a cool, dry place for no more than 12 months.

Waste classification (2014/955/EU): 08 04 10.

USA and CA Properties	standard	value
Water vanour transmission (dru cun)	ASTM FOG/ FOGM	15.4 US PERM
	ASTM E90/ E90M	885 ng/(s·m²·Pa)
Airtightness	ASTM E2178	compliant
Airtightness (before and after ageing)	CAN/ULC-S741	compliant
Total heat release rate	ASTM E1354	8.21 MJ/m <sup>2</sup>
Surface burning characteristics	ASTM E84	class 1 or class A
Flame spread index (FSI)	ASTM E84	0
Smoke developed index (SDI)	ASTM E84	15
Resistance to water penetration at 300 Pa on wall	ASTM E331	compliant

AUS and NZ Properties	standard	value
Flamability index	AS 1530.2	< 5 <sup>(5)</sup>

<sup>(5)</sup>Tested with release liner removed and adhered to 3 mm plywood. This product is suitable for use in BAL regions 12.5 to 40 in accordance with AS 3959. Wherever non-combustible material is required by the NCC it should be noted that this product is less than 1mm thick and has a flammability index of less than 5.

### **RESISTANCE TO WATER PENETRATION**

TRASPIR ADHESIVE 260 has been tested in accordance with ASTM E331 to confirm its effectiveness against water jets at 75 Pa and 300 Pa.

WATER JET PRESSURE	OUTCOME	NOTES AND REMARKS
300 Pa	passed	no infiltration

# **TRASPIR EVO UV ADHESIVE**

### SELF-ADHESIVE BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS

### SELF-ADHESIVE AND MONOLITHIC

It consists of a special polymer mix and has an adhesive film that adheres perfectly to any substrate structure.

The monolithic structure provides excellent weather and chemical resistance, guaranteeing 10 weeks of temporary protection.

### IT RESISTS FIRE AND PROTECTS THE BUILDING

It has fire reaction B-s1,d0 and flame retardant capacity according to EN 13501-1.

The low flame spread guarantees the safety of the building and people.



- (1) top layer: highly UV ray-stabilised non-woven PP fabric
- (2) middle layer: monolithic PU breathable film
- (3) bottom layer: non-woven PP fabric
- (4) glue: acrylate dispersion without solvents
- (5) separation layer: pre-cut removable plastic film





### CODES AND DIMENSIONS

CODE	description	Н	L	А	Н	L	А	
		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TUVA250	TRASPIR EVO UV ADHESIVE	1,45	50	72,5	4′91/8″	164	780	16
TUVAS250	TRASPIR EVO UV ADHESIVE STRIPE 0,36 m	0,36	50	18	1'21/8"	164	194	30

Available in different widths on request.



### PERMANENT UV STABILITY

UV resistance is permanent even when exposed to open joints on façades up to 35 mm wide and uncovering a maximum of 30 % of the surface area for façade application.



Properties	standard	value	USC units
Mass per unit area	EN 1849-2	250 g/m <sup>2</sup>	0.82 oz
Thickness	EN 1849-2	approx. 0,7 mm	28 mil
Water vapour transmission (Sd) <sup>(*)</sup>	EN 1849-2	0,19 m	18 US Perm
Tensile strength MD/CD	EN 12311-1	270/225 N/50 mm	17/13 lb/in
Elongation MD/CD	EN 12311-1	50/70 %	-
Resistance to nail tearing MD/CD	EN 12310-1	180/220 N	29/38 lbf
Watertightness	EN 1928	W1	-
After ageing <sup>(3)</sup> :			
- watertightness at 120°C	EN 1297/EN 1928	W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	180/145 N/50 mm	> 11/8 lb/in
- elongation	EN 1297/EN 12311-1	38/31 %	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> ·h·50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-30/+120 °C	-22/+248 °F
Reaction to fire	EN 13501-1	B-s1,d0	-
UV resistance without final coating <sup>(1)</sup>	EN 13859-1/2	5000 h (>12 months)	-
UV stability with joints up to 35 mm wide exposing no more than 30% of the surface <sup>(2)</sup>	-	permanent	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	2,08 BTU in/(h·ft <sup>2</sup> .°F)
Specific heat	-	1800 J/(kg/K)	-
Density	-	approx. 415 kg/m <sup>3</sup>	26 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 475	0.95 MNs/g
Storage temperature <sup>(4)</sup>	-	+5/+35 °C	41/95 °F
Application temperature	-	+5/+25 °C	41/77 °F
Solvents	-	no	-

(\*)Membrane support properties.

(1) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 10 weeks. According to DTU 31.2 P1-2 (France) 5000h of UV ageing equates to a maximum exposure period of 6 months during the construction phase.

(2) The membrane is not intended as a final waterproof layer for roofs.
 (3) Ageing conditions are tested in accordance with EN 13859-2, Annex C, extended to 5000h (standard 336h).

<sup>(4)</sup>Store the product in a cool, dry place for no more than 12 months.

Installation in particularly windy areas and/or adverse weather conditions requires the use of mechanical fasteners in the overlap areas.

Waste classification (2014/955/EU): 08 04 10.

### MULTI BAND UV SPECIAL UV-RESISTANT HIGH-ADHESION TAPE B-s1,dO CODE В L В L [mm] [m] [ft] MULTIUV60 25 60 2.4 82 10 See the product on page 106.



### WATERPROOF, VAPOUR PERMEABLE

The monolithic composition and special glue make the membrane waterproof and airtight, but vapour permeable. This makes it easier for any seepage to dry out and protects the structure.

# RECOMMENDATIONS FOR INSTALLATION: BARRIER, VAPOR AND TRASPIR ADHESIVE



APPLICATION ON FLOORS













SEALING FASTENING SYSTEMS



- 1 SPEEDY BAND 300, FLEXI BAND, PLASTER BAND
- 2 PROTECT, BYTUM BAND PRIMER SPRAY, PRIMER

# RECOMMENDATIONS FOR INSTALLATION: BARRIER, VAPOR AND TRASPIR ADHESIVE

APPLICATION AT A HOLE





1 MARLIN, CUTTER

### APPLICATION ON WALL













# VAPOUR BARRIERS AND CONTROL LAYERS

## VAPOUR BARRIERS AND CONTROL LAYERS

BARRIER NET SD40 VAPOUR BARRIER SD 40 M
BARRIER SD150 VAPOUR BARRIER SD 145 M204
BARRIER ALU NET SD150 REFLECTIVE VAPOUR BARRIER SD 150 M207
BARRIER ALU NET SD1500 REFLECTIVE VAPOUR BARRIER SD > 1500 M
BARRIER ALU FIRE A2 SD2500 REFLECTIVE AIR VAPOUR BARRIER FIRE REACTION CLASS A2-S1,D0210
VAPOR IN 120 VAPOUR CONTROL MEMBRANE
VAPOR IN NET 140 VAPOUR CONTROL MEMBRANE WITH REINFORCEMENT GRID213
VAPOR IN GREEN 200 VAPOUR CONTROL MEMBRANE BASED ON NATURAL CELLULOSE
CLIMA CONTROL 80 MEMBRANE WITH VARIABLE VAPOUR DIFFUSION
CLIMA CONTROL 105 MEMBRANE WITH VARIABLE VAPOUR DIFFUSION
CLIMA CONTROL NET 145 MEMBRANE WITH VARIABLE VAPOUR DIFFUSION AND REINFORCEMENT GRID230
CLIMA CONTROL NET 160 MEMBRANE WITH VARIABLE VAPOUR DIFFUSION AND REINFORCEMENT GRID232
VAPOR NET 110 VAPOUR CONTROL MEMBRANE WITH REINFORCEMENT GRID
VAPOR 140 VAPOUR CONTROL MEMBRANE
VAPOR 150 VAPOUR CONTROL MEMBRANE
VAPOR NET 180 VAPOUR CONTROL MEMBRANE WITH REINFORCEMENT GRID237
VAPOR EVO 190 HIGH PERFORMANCE VAPOUR CONTROL MEMBRANE 238
VAPOR 225 VAPOUR CONTROL MEMBRANE240

# **BARRIER NET SD40**

### VAPOUR BARRIER Sd 40 m

Seela

101

mass per unit area

[g/m<sup>2</sup>]

110

tape

Н

[m]

1.5

rc

SE

L

[m]

50

А

[m<sup>2</sup>]

75

### TRANSPARENT

It ensures simple, fast and safe installation.

### **REINFORCING GRID**

Thanks to its composition, it is not affected by mechanical stress or by staples and nails.

### BLOWING

The reinforcement grid offers great resistance to the membrane, even in the event of pressure caused by the insulating material being blown.

### COMPOSITION

- (1) top layer: PE functional film
- (2) reinforcing layer: reinforcing PE grid
- (3) bottom layer: PE functional film

CODES AND DIMENSIONS

description

BARRIER NET SD40

othoblaas

seeldou

CODE

BAR40

seeldontor

### SAFE INSTALLATION

Н

5

During installation of the insulation layer by means of blowing, mechanical stresses are applied for which the reinforcement grid can compensate.

### POLYETHYLENE

Specific material with the function of strongly limiting the passage of vapour from the hot part to the cold part of structures, limiting the condensation problems.



L

[ft]

164

**A** [ft<sup>2</sup>]

807

80





110 g/m<sup>2</sup>

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	110 g/m <sup>2</sup>	0.36 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,22 mm	9 mil
Water vapour transmission (Sd) <sup>(1)</sup>	EN 1931/EN ISO 12572	40 m	0.087 US Perm
Tensile strength MD/CD	EN 12311-2	> 220/190 N/50 mm	> 25/22 lbf/in
Elongation MD/CD	EN 12311-2	15/15 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 155/145 N	> 35/33 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class F	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity $(\lambda)$	-	0,4 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 500 kg/m <sup>3</sup>	approx. 31 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 182000	approx. 200 MNs/g
VOC	-	not relevant	-

 $^{(1)}\mbox{Consult}$  the Declaration of Performance for the minimum value.

Waste classification (2014/955/EU): 17 02 03.

### RELATED PRODUCTS



SEAL BAND page 70



INVISI BAND page 88



BLACK BAND page 144



HAND STAPLER page 397



### MECHANICAL STRENGTH

The reinforcement grid provides high mechanical resistance to the product, preventing major breakage in case of puncture.

# **BARRIER SD150**

### VAPOUR BARRIER Sd 145 m

### EXTRALARGE

Also available in a 3.2 m version. Ideal for waterproofing floors.

### EASY INSTALLATION

The membrane's transparency allows immediate installation on the sub-structure.

### PRE-BENT

To optimise storage and save space, the 3,2 m version is rolled up pre-folded during production.

mass per unit area

 $[g/m^2]$ 

190

190

roll

[m]

1,5 x 25

1 x 25

-

tape

-

н

[m]

1,5

3.2

L

[m]

25

25

А

[m<sup>2</sup>]

37,5

80

### COMPOSITION

CODE

BAR150

BAR15032

(1) single layer: PE functional film

CODES AND DIMENSIONS

description

BARRIER SD150

BARRIER SD150 3,2 m

### TRANSPARENT

The transparency of the product makes it easy to identify the strut when it is installed directly on the frame structure.

Н

5

### VERSATILITY

The extruded polyethylene product offers several possible applications, from temporary protection on the construction site to vapour control within the layers.



L

82

Α

404

52

28

### 





Properties	standard	value	USC units
Mass per unit area	EN 1849-2	190 g/m <sup>2</sup>	0.62 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,2 mm	8 mil
Water vapour transmission (Sd) <sup>(1)</sup>	EN 1931/EN ISO 12572	145 m	0.024 US Perm
Tensile strength MD/CD	EN 12311-2	> 206/180 N/50 mm	> 24/21 lbf/in
Elongation MD/CD	EN 12311-2	> 100/100 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 147/165 N	> 33/37 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	compliant	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-40/80 °C	-40/176 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity $(\lambda)$	-	0,4 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 950 kg/m <sup>3</sup>	approx. 59 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 725000	approx. 725 MNs/g
VOC	-	not relevant	-

 ${\ensuremath{^{(1)}}}\xspace$  Consult the Declaration of Performance for the minimum value.

Waste classification (2014/955/EU): 17 02 03.

### RELATED PRODUCTS



SEAL BAND page 70



EASY BAND page 74



MANICA FLEX page 148



HAMMER STAPLER 22 page 396



### PREFABRICATION

Thanks to the 3.2 m width, it is possible to join the barrier between the different walls without additional sealing or membrane cut-offs.

# **REFLECTIVE MEMBRANES**

Reflective membranes offer a benefit in both winter and summer.



In winter, aluminium finished membranes applied indoor and coupled with an air gap reflect heat back into the interior, transforming the gap into an insulating layer and increasing thermal performance. Reflective membranes on the outdoor side provide a benefit during the hot season because they reflect heat outwards, rejecting incoming heat.

Thermal stress affects materials; reducing it through the use of reflective membranes increases the durability of materials in the inner layers.

Reflective membranes offer superior thermal insulation, effective material protection and generally increase the performance of the roof.

### CALCULATION EXAMPLE

Example of thermal calculation with and without reflective membranes using the method proposed in ISO 6946.



In this example calculation, the use of reflective membranes leads to a 32% increase in the thermal resistance of the layers and an increase in the overall performance of the panels.

# **BARRIER ALU NET SD150**

### REFLECTIVE VAPOUR BARRIER Sd 150 m

### **COMPOSITION**

- (1) top layer: functional aluminized PE film
- (2) reinforcing layer: reinforcing PE grid
- (3) bottom layer: PE functional film





### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	100 g/m <sup>2</sup>	0.33 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,2 mm	8 mil
Water vapour transmission (Sd) <sup>(1)</sup>	EN 1931/EN ISO 12572	150 m	0.023 US Perm
Tensile strength MD/CD	EN 12311-2	> 230/230 N/50 mm	> 26/26 lbf/in
Elongation MD/CD	EN 12311-2	15/10 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 110/110 N	> 25/25 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-40/80 °C	-40/176 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity $(\lambda)$	-	0,39 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1700 J/(kg·K)	-
Density	-	approx. 500 kg/m <sup>3</sup>	approx. 31 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 750000	approx. 750 MNs/g
VOC	-	not relevant	-
Reflectivity	EN 15976	approx. 50 %	-
Equivalent thermal resistance with 50 mm air gap $(\epsilon_{other surface} 0.025-0.88)$	ISO 6946	R <sub>g,0,025</sub> : 0,799 (m <sup>2</sup> K)/W R <sub>g,0,88</sub> : 0,304 (m <sup>2</sup> K)/W	4.54 h·ft <sup>2</sup> ·°F/BTU 1.73 h·ft <sup>2</sup> ·°F/BTU

<sup>(1)</sup>Consult the Declaration of Performance for the minimum value.

Waste classification (2014/955/EU): 17 02 03.

### CODES AND DIMENSIONS

CODE	description	mass per unit area	tape	roll	н	L	А	Н	L	Α	B
		[g/m <sup>2</sup> ]		[m]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BARALU150	BARRIER ALU NET SD150	100	-	1,5 x 50	1,5	50	75	5	164	807	80
BARALUTT150	BARRIER ALU NET SD150 TT	100	TT	1,5 x 50	1,5	50	75	5	164	807	80
BARALU15030	BARRIER ALU NET SD150 3,0 m	100	-	3,0 x 50	3	50	150	10	164	1615	45

# **BARRIER ALU NET SD1500**

### REFLECTIVE VAPOUR BARRIER Sd > 1500 m

### **REINFORCING GRID**

Thanks to its composition, the membrane is not affected by mechanical stress or by staples and nails.

### REFLECTIVE

Thanks to its ability to reflect up to 70% of the heat, the membrane improves the thermal performance of the construction panels.

### REACTION TO FIRE B-s1,d0

Self-extinguishing membrane which does not spread the flame in case of fire contributing to the protection of the structure.

### **RADON BARRIER**

The membrane has been tested in accordance with ISO/TS 11665-13 for protection against radon gas of the entire system.

### COMPOSITION

- (1) coating: PET film
- (2) top layer: aluminium film
- (3) middle layer: PE film
- (4) reinforcing layer: reinforcing PE grid
- (5) bottom layer: PE film

### CODES AND DIMENSIONS

CODE	description	mass per unit area	tape	Н	L	А	Н	L	А	
		[g/m <sup>2</sup> ]		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BARALU1500	BARRIER ALU NET SD1500	200	-	1,5	50	75	5	164	807	30





200 g/m<sup>2</sup>



### ENERGY SAVING

The reflectivity of the membrane improves the energy performance of the construction panels as it reflects heat inwards increasing thermal resistance.

### SAFETY

Thanks to its B-s1,d0 fire rating, the membrane is self-extinguishing in the event of contact with an open flame, providing greater safety both during construction and after the building has been completed.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	200 g/m <sup>2</sup>	0.66 oz/ft <sup>2</sup>
Thickness <sup>(1)</sup>	EN 1849-2	0,15 mm	6 mil
Water vapour transmission (Sd) <sup>(2)</sup>	EN 1931/EN ISO 12572	4000 m	0.001 US Perm
Tensile strength MD/CD	EN 12311-2	> 400/400 N/50 mm	46/46 lbf/in
Elongation MD/CD	EN 12311-2	> 10/10 %	-
Resistance to nail tearing MD/CD	EN 12310-1	>300/300 N	67/67 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class B-s1,d0	-
Resistance to penetration of air	EN 12114	<0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
UV stability <sup>(4)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,39 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1700 J/(kg·K)	-
Density	-	approx. 1330 kg/m <sup>3</sup>	approx. 83 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 26000000	approx. 20000 MNs/g
VOC (GEV procedure)	-	very low emission $(1+)^{(3)}$	-
Radon diffusion coefficient D	ISO/TS 11665-13	< 3,5·10 <sup>-15</sup> m <sup>2</sup> /s	-
Radon diffusion length l	ISO/TS 11665-13	< 4.1·10 <sup>-5</sup> m	-
Reflectivity	EN 15976	approx. 70 %	-
Equivalent thermal resistance with 50 mm air gap	150 6046	R <sub>g,0,025</sub> : 0,801 (m <sup>2</sup> K)/W	4.56 h·ft <sup>2</sup> ·°F/BTU
(ε <sub>other surface</sub> 0,025-0,88)	150 0940	R <sub>g,0,88</sub> : 0,406 (m <sup>2</sup> K)/W	2.30 h·ft <sup>2</sup> ·°F/BTU

<sup>(1)</sup>The thickness at the grid 0,45 mm (18 mil).

(2) Total barrier in accordance with ZVDH classification (Germany) with a minimum guaranteed value exceeding 1500 m.
 (3) BARRIER ALU NET SD1550 belongs to the same product family as BARRIER ALU NET ADHESIVE 300, making the results applicable to this product also.
 (4) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 4 weeks.

Waste classification (2014/955/EU): 17 09 04

### DETERMINATION OF THE RADON DIFFUSION COEFFICIENT

Radon is an invisible, odourless gas found in soil that can seep through building foundations, accumulating indoors and posing a health risk to occupants.

BARRIER ALU NET SD1500 has been tested in accordance with ISO/TS 11665-13 as an effective radon gas barrier, ensuring a safe and healthy environment.

Rn diffusion coefficient D	3,5·10 <sup>-15</sup> (m <sup>2</sup> /s)	
Rn diffusion length l	4,1·10 <sup>-5</sup> (m)	(HD)
Rn resistance R <sub>Rn</sub>	179759 (Ms/m)	RADON BARRIER



### RELATED PRODUCTS





SUPRA BAND page 140



FIRE SEALING page 130-132



page 128

VAPOUR BARRIERS AND CONTROL LAYERS | BARRIER ALU NET SD1500 | 209

# BARRIER ALU FIRE A2 SD2500 140 g/m<sup>2</sup>



### NON-COMBUSTIBLE A2-s1,d0

Product tested according to EN 13501-1 and classified as non-combustible material.

### ENERGY EFFICIENCY

The reflectivity of the membrane improves the energy performance of the construction panels: reflecting heat inwards up to 95% it increases thermal resistance.

### SAFETY

As it is non-combustible, it can also be used in combination with photovoltaic systems or at electrical voltage points.



CE

REFLECTIVE

SUPER BARRIER



### COMPOSITION

(1) top layer: aluminium film

(2) bottom layer: glass fibre fabric

### CODES AND DIMENSIONS

CODE	description	mass per unit area	tape	Н	L	А	Н	L	Α	
		[g/m <sup>2</sup> ]		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BARALUFIR2500	BARRIER ALU FIRE A2 SD2500	140	-	1,2	50	60	4	164	646	32



### RELIABLE

Thanks to the special aluminium film, it is extremely UV-stable, ageing-resistant and non-combustible, offering protection even on the construction site.

### MECHANICAL STRENGTH AND STABILITY

The combination of aluminium cladding and glass fibre reinforcement ensures high mechanical performance that remains unchanged over time.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	140 g/m <sup>2</sup>	0.46 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,1 mm	4 mil
Water vapour transmission (Sd) <sup>(1)</sup>	EN 1931/EN ISO 12572	2500 m	0.001 US Perm
Tensile strength MD/CD	EN 12311-2	> 960/950 N/50 mm	110/108 lbf/in
Elongation MD/CD	EN 12311-2	6/6 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 150/150 N	34/34 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class A2-s1,d0	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-40/180 °C	-40/356 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity $(\lambda)$	-	0,0001 W/(m·K)	0 BTU/h·ft:°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 1400 kg/m <sup>3</sup>	approx. 87 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 25000000	approx. 12500 MNs/g
VOC	-	not relevant	-
Reflectivity	EN 15976	95 %	-
Equivalent thermal resistance with 50 mm air gap ( $\epsilon_{other surface} 0.025-0.88$ )	ISO 6946	R <sub>g,0,025</sub> : 0,821 (m <sup>2</sup> K)/W	4.66 h·ft <sup>2</sup> ·°F/BTU
(ε <sub>other surface</sub> 0,025-0,88)	150 0540	R <sub>g,0,88</sub> : 0,731 (m <sup>2</sup> K)/W	4.15 h·ft <sup>2</sup> ·°F/BTU

 $^{(1)}$ Total barrier with a minimum guaranteed value exceeding 1500 m, according to ZVDH classification (Germany).

Waste classification (2014/955/EU): 17 09 04.

### FIRE PROTECTION



FIRE SEALING page 130-132



FIRE FDAM page 128



page 138



FRONT BAND UV 210 page 108



### **COMPLETE BARRIER**

Maximum resistance to the passage of water vapour. Thanks to its ability to reflect up to 95% of heat, it improves the thermal performance of the construction panels.

# VAPOR IN 120



VAPOUR CONTROL MEMBRANE

### 

(2) bottom layer: non-woven PP fabric

ASINZ AS/NZS 4200.1 Class 2         USA IRC Class 2         A Dnorm B4119 DB         CH SIA 232 Vxu.         D ZVDH Dh         F DTU 31.2 Dh         I UN 1147D D/R1           3,0 m         3,0 m         1	AUS AS/NZS 4200.1 Class 2	USA IRC Class 2 B4119 DB	CH SIA 232 V.v.u.	ZVDH Dh	F DTU 31.2 pare-vapeur	UNI 11470 D/R1		3,0 m	
--	------------------------------------	--------------------------------------	-------------------------	------------	------------------------------	-------------------	--	-------	--



### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	120 g/m <sup>2</sup>	0.39 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0.4 mm	16 mil
Water vapour transmission (Sd) <sup>(1)</sup>	EN 1931/EN ISO 12572	30 m	0.14 US Perm
Maximum tensile force MD/CD <sup>(1)</sup>	EN 12311-2	220/180 N/50 mm	25/21 lbf/in
Elongation MD/CD <sup>(1)</sup>	EN 12311-2	47/68 %	-
Resistance to nail tearing MD/CD <sup>(1)</sup>	EN 12310-1	160/205 N	36/46 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	<0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	0 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 300 kg/m <sup>3</sup>	approx. 19 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 75000	approx. 150 MNs/g
VOC	-	not relevant	-

 $^{(1)}$  Average values obtained from laboratory tests. Consult the Declaration of Performance for the minimum values.

Waste classification (2014/955/EU): 17 02 03.

### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
VV120	VAPOR IN 120	-	1,5	50	75	5	164	807	36
VV12030	VAPOR IN 120 3,0 m	-	3	50	150	10	164	1615	30

212 | VAPOR IN 120 | VAPOUR BARRIERS AND CONTROL LAYERS

# **VAPOR IN NET 140**

# VAPOUR CONTROL MEMBRANE WITH REINFORCEMENT GRID

### COMPOSITION

- (1) top layer: vapour control PP film
- (2) reinforcing layer: reinforcing PP grid
- (3) bottom layer: non-woven PP fabric



# 1 (2) (3)

### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	140 g/m <sup>2</sup>	0.46 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0.4 mm	6 mil
Water vapour transmission (Sd) <sup>(1)</sup>	EN 1931/EN ISO 12572	30 m	0.14 US Perm
Maximum tensile force MD/CD <sup>(1)</sup>	EN 12311-2	390/360 N/50 mm	45/41 lbf/in
Elongation MD/CD <sup>(1)</sup>	EN 12311-2	18/16 %	-
Resistance to nail tearing MD/CD <sup>(1)</sup>	EN 12310-1	280/260 N	63/58 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-20/80 °C	-4/176 °F
Resistance to penetration of air	EN 12114	<0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	0 cfm/ft <sup>2</sup> at 50Pa
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 350 kg/m <sup>3</sup>	approx. 22 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 75000	approx. 150 MNs/g
VOC	-	not relevant	-

 $^{(1)}$  Average values obtained from laboratory tests. Consult the Declaration of Performance for the minimum values.

Transfer Waste classification (2014/955/EU): 17 02 03.

### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
VV140	VAPOR IN NET 140	-	1,5	50	75	5	164	807	30



# SUSTAINABILITY



Environmental sustainability is an increasingly central issue, which our company has long considered to be a priority.

Although timber construction is in many respects more sustainable than other building systems, an assessment of the impacts linked to the entire life cycle of the products is still necessary in order to make an objective comparison between different building systems.

**EPDs** (Type III **Environmental Product Declarations**) in accordance with EN ISO 14025 are a valid tool to this end, which, insofar as based on specific parameters, make it possible to produce a technical document that can be used to objectively compare the environmental impact of various products.

The EPD is a declaration based on **LCA** (Life Cycle Assessment) for which the study of all aspects related to the production, use and disposal of the product is required.



This is a voluntary initiative, not obligatory by law, which we have decided to implement to know the environmental impact of our products, and to allow the designer to have an accurate idea of the ecological footprint of the building he or she is designing.

This is an ongoing process that will eventually lead to EPDs for other products in the future.

### SUSTAINABLE SOLUTION

PRODUCT		PAGE	PRODUCT	PAGE
BARRIER ALU NET SD1500		208	TRASPIR EVO 160	264
VAPOR IN 120		212	TRASPIR EVO SEAL 200	268
VAPOR IN NET 140		213	TRASPIR EVO UV 210	272
VAPOR IN GREEN 200		215	TRASPIR EVO 220	276
CLIMA CONTROL 80		226	TRASPIR EVO 300	280
CLIMA CONTROL NET 160		232	TRASPIR DOUBLE EVO 340	282
VAPOR 225		240	TRASPIR WELD EVO 360	286
VAPOR EVO 190		238	TRASPIR NET 160	263
BARRIER ALU FIRE A2 SD2500	LEA .	210	TRASPIR 200	266
TRASPIR 110		252	TRASPIR ALU 200	267
TRASPIR EVO UV 115		254	TRASPIR DOUBLE NET 270	278
TRASPIR NET 160		263	TRASPIR ALU FIRE A2 430	290

# VAPOR IN GREEN 200





### 

- 1 top layer: kraft paper
- (2) reinforcing layer: reinforcing grid
- (3) middle layer: functional film
- (4) bottom layer: kraft paper





### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	200 g/m <sup>2</sup>	0.66 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,35 mm	14 mil
Water vapour transmission (Sd)	EN 1931/EN ISO 12572	7 m	0.5 US Perm
Tensile strength MD/CD	EN 12311-2	> 250/170 N/50 mm	> 29/19 lbf/in
Elongation MD/CD	EN 12311-2	5/5 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 100/130 N	> 22/29 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to temperature	-	-40/80 °C	-40/176 °F
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity $(\lambda)$	-	0,13 W/(m·K)	0.08 BTU/h·ft·°F
Specific heat	-	1000 J/(kg·K)	-
Density	-	approx. 570 kg/m <sup>3</sup>	approx. 36 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 20000	approx. 35 MNs/g
VOC	-	not relevant	-

Waste classification (2014/955/EU): 17 02 03.

### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
VVG200	VAPOR IN GREEN 200	-	1,5	50	75	5	164	807	30

### RECOMMENDATIONS FOR INSTALLATION: BARRIER, VAPOR AND CLIMA CONTROL

APPLICATION ON WALL - INTERNAL SIDE



BARRIER NET SD40, BARRIER SD150, BARRIER ALU NET SD150, BARRIER ALU NET SD1500, BARRIER ALU FIRE A2 SD2500, VAPOR IN 120, VAPOR IN
 NET 140, VAPOR IN GREEN 200, VAPOR NET 110, VAPOR 140, CLIMA CONTROL 80, CLIMA CONTROL 105, CLIMA CONTROL NET 145
 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES

- MEMBRANE GLUE
- **3a** DOUBLE BAND, SUPRA BAND, BUTYL BAND ROLLER, FLY FOAM, FOAM CLEANER
- **3b** ROTHOBLAAS TAPE
- 4 PRIMER SPRAY, PRIMER
- 5 BYTUM BAND, PROTECT, FLEXI BAND, PLASTER BAND
- 6 NAIL PLASTER, GEMINI, NAIL BAND, BUTYL BAND
## VAPOURBARRIERSANDCONTROLLAYERS | RECOMMENDATIONS FOR INSTALLATION: BARRIER, VAPORANDCLIMACONTROL | 217

- ROLLER
- З MARLIN, CUTTER

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- ROTHOBLAAS TAPE

- BARRIER NET SD40, BARRIER SD150, BARRIER ALU NET SD150, BARRIER ALU NET SD1500, BARRIER ALU FIRE A2 SD2500, VAPOR IN 120, VAPOR IN NET 140, VAPOR IN GREEN 200, VAPOR NET 110, VAPOR 140, CLIMA CONTROL 80, CLIMA CONTROL 105, CLIMA CONTROL NET 145 1 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES

- ŝ CLIMA CONTRO
- rothoblaas 75 KOT 80 CONTROL 80 CE EN 13984 SP CED OS JONTROL 80 266 E.







## RECOMMENDATIONS FOR INSTALLATION: BARRIER, VAPOR AND CLIMA CONTROL



**APPLICATION ON ROOF - INTERNAL SIDE** 



1a SUPRA BAND, BUTYL BAND

1b DOUBLE BAND, MEMBRANE GLU

BARRIER NET SD40, BARRIER SD150, BARRIER ALU NET SD150, BARREIR ALU NET SD1500, BARRIER ALU FIRE A2 SD2500, VAPOR IN 120, VAPOR IN 3a NET 140, VAPOR IN GREEN 200, CLIMA CONTROL 80, CLIMA CONTROL 105, CLIMA CONTROL NET 145, CLIMA CONTROL NET 160, VAPOR NET 110, VAPOR 140, VAPOR NET 180

MEMBRANE GLUE

3b DOUBLE BAND, SUPRA BAND, BUTYL BAND

3c ROTHOBLAAS TAPE

## RECOMMENDATIONS FOR INSTALLATION: BARRIER, VAPOR AND CLIMA CONTROL



APPLICATION ON ROOF WINDOW - INTERNAL SIDE

















BARRIER NET SD40, BARRIER SD150, BARRIER ALU NET SD150, BARREIR ALU NET SD1500, BARRIER ALU FIRE A2 SD2500, VAPOR IN 120, VAPOR IN NET 140, VAPOR IN GREEN 200, CLIMA CONTROL 80, CLIMA CONTROL 105, CLIMA CONTROL NET 145, CLIMA CONTROL NET 160, VAPOR NET 110, VAPOR 140, VAPOR NET 180

MARLIN, CUTTER

1

7a ROTHOBLAAS TAPE 7b

## FLAT ROOF WITH CLIMA CONTROL



Verification of the thermo-hygrometric performance of a flat roof layer incorporating a variable vapour diffusion membrane (CLIMA CONTROL). In particular, the objective is to verify the drying of the layers, following a humidity accumulation phase.

The dimensions of construction panels used for the experimental phase were  $1,2 \times 1,2$  m having the following characteristics:

- **BYTUM SLATE 3500** (Sd 280 m)
- 2 BYTUM BASE 2500 (Sd 200 m)
- OSB panel 20 mm (Sd 5 m)
- 4 insulation mineral wool 120 mm + 120 mm (Sd 0.24 m)
- 5 CLIMA CONTROL (Sd 0,15-5 m)
- 12,5 mm fibre-gypsum board (Sd 0.05 m)



eurac research

### LABORATORY TEST

Given the innovative behaviour of the CLIMA CONTROL membrane, an initial measurement phase was carried out in the laboratory to verify the real behaviour of the proposed layers. After a conditioning phase in which the different layers were kept at high humidity (80%), the specimen was installed in the Multifunctional Façade Lab and the test phase was started under dynamic outdoor conditions in which the conditions of a central European summer climate (Munich) were reproduced. Already after 17 days, it was possible to notice the drying process and the decrease of moisture content within the layers.



### SIMULATION WITH SOFTWARE

For the joint assessment of heat, humidity and matter transfer in porous building materials.

With the data obtained from the laboratory test, it was possible to calibrate the model in order to extend the thermo-hygrometric study in various climates and for a long-term analysis (10 years).



### CONCLUSIONS

In all the cases simulated, the layers did not present any problems relating to the formation of condensation, suggesting that the application of the CLIMA CONTROL membrane is valid for preventing the excessive accumulation of humidity, also allowing the layers to dry in summer.

The presence of CLIMA CONTROL is decisive in periodically avoiding winter condensation phenomena towards the outermost layers, as demonstrated by the simulation of a Central European climate in the absence of the membrane.

The analysis of layers for a flat roof requires in-depth knowledge of technical physics and the ability to use specific software. A correct design and analysis of the layers is not easy and each situation requires a precise definition of the boundary conditions and the materials used.

For further information, visit www.rothoblaas.com.

### 2<sup>ND</sup> FLAT ROOF PROJECT - TESTING WITH JOIST IN BETWEEN

As part of the European MEZeroE project, the hygrothermal performance of CLIMA CONTROL was assessed. The study examined how CLIMA CONTROL responds to changes in humidity and different techniques for installing sensors used for monitoring during construction.

The experiment involved installing beams at multiple different levels to test the system's response under different conditions and verify that CLIMA CONTROL allows the structure to effectively dry. Boundary conditions simulated various seasonal conditions: summer, winter and an ambient temperature phase.

The construction panels used for the experimental phase measured 2,6 x 2,4 m and had the following characteristics;

**BYTUM SLATE 3500** (Sd 280 m)

2 BYTUM BASE 2500 (Sd 200 m)

**OSB panel 12 mm** (Sd 5 m)

4 insulation mineral wool 80 mm + 80 mm (Sd 0.24 m)

CLIMA CONTROL (Sd 0,15-5 m)

**B** 12,5 mm fibre-gypsum board (Sd 0.05 m)

INTERNAL SIDE (sensor in contact CENTRE (sensor in contact

with the joist)





## LABORATORY TEST

with the joist)

### STEP O

INTERNAL	OUTDOOR		100				1	1		1			1		
T = 18 - 21°C	T = 27 - 35°C			A. 10	-			1 1 1 1							
U.R.= 55 - 75%	U.R.= 45 - 95%		90 🕂	··· ··			+								
STEP 1		ty [%]	80 -	N-1.						<u>-</u> V	N				
INTERNAL	OUTDOOR		/0								N.	,			
T = 20°C U.R.= uncontrolled	T = 35°C U.R.= 55%	hum	60 -4	N.			******					<i>.</i> f	· · ·	·	
STEP 2		elative	40 -								1-1-1	1	(]		
INTERNAL	OUTDOOR	£	30 -									<u>}</u>			
T = 25°C U.R.= uncontrolled	T = 27 - 35°C U.R.= 45 - 95%		ste 20 4	p 0		-	step 1			10	1E	tep 2	st	tep 3	
STEP 3			I	3	5	5	/	a d	lays	13	15	17	19	21	
INTERNAL	OUTDOOR														
SWITCH OF (	uncontrolled)		INTE (senswith	SOR IN CONTRACT SOR IN CONTRACT SOR IN CONTRACT	SIDE ontact st)			CENTR (sensor with th	E r in con e joist)	tact	-	E (: V	XTERN sensor vith the	IAL SIDE in contac joist)	ct
STEP	1		ST	EP 2							ST	EP 3			
CLIMA CONTROL functions	s as a breathable mem-	The flow was	reverse	d and	CLIMA		ITROL	The p	oressur	e grad	ient o	f almos	t zero,	the hum	id

CLIMA CONTROL functions as a breathable membrane, demonstrating a gradual decrease in relative humidity in all positions. The flow was reversed and CLIMA CONTROL functioned as a vapour control layer. The graph shows how the humidity was redistributed without a significant increase in total humidity.

The pressure gradient of almost zero, the humidity redistribute and the resulting recorded value is significantly lower than the initial level, demonstrating that CLIMA CONTROL effectively fulfilled its purpose.

### CONCLUSIONS

The test highlighted CLIMA CONTROL's effectiveness and its ability to adapt to changes in humidity. The membrane demonstrated its ability to facilitate drying in all layers in the three monitored positions during the summer phase, while limiting accumulation in the winter condition.

It should be noted that the performance of the construction element also depends on the choice of materials: ensuring rapid redistribution of the humidity within the various components aids the system's functionality.



This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.

## WALL WITH CLIMA CONTROL

### LABORATORY TEST

In order to verify the reliability of the calculation model, it was decided to use a fictitious climatic chamber built in the laboratory, very well insulated both thermally and in terms of vapour diffusion. The specimen formed one side of the craft chamber, which was placed inside a single-zone climatic chamber capable of generating the desired temperature and humidity conditions. Within the fictitious climatic chamber, the desired temperature and humidity conditions were created by means of a thermostat heater and the use of a specially mixed salt solution.



COLD A	ND HUMID OUTDOOI	R CLIMATE	HOT A	ND HUMID OUTDOOR	CLIMATE
WINTER	INTERNAL	OUTDOOR	SUMMER	INTERNAL	OUTDOOR
CONDITIONS	T = 20°C R.H.= 40%	T = 0°C R.H.= 80%	CONDITIONS	T = 26°C R.H.= 80%	T = 40°C R.H.= 702

## SIMULATION WITH SOFTWARE

	CASE O	OUTDOOR OSB CASE	OUTDOOR OSB CASE
	OUT TRASPIR		OUT
SUMMER	NO CONDENSATION	NO CONDENSATION	NO CONDENSATION
WINTER	NO CONDENSATION	NO CONDENSATION	
	INDOOR OSB CASE	INDOOR OSB CASE	CLT CASE
	OUT	OUT	OUT TRASPIR
SUMMER		NO CONDENSATION	NO CONDENSATION
WINTER	NO CONDENSATION	NO CONDENSATION	NO CONDENSATION

## CONCLUSIONS

When comparing the various outputs, the importance of vapour control and breathable membranes to adequately regulate vapour flows through building packages becomes clear.

It is also clear that the choice of location and type of membrane depends on the climatic conditions and the materials used.

In order to ensure optimal performance of the building casing, the processes of heat, vapour, air and wind transport that occur within the different components must be studied and controlled to avoid interstitial and surface condensation. For further information, visit www.rothoblaas.com.

## **MONITORING**



As part of the MEZeroE project, the hygrothermal performance of CLIMA CONTROL was evaluated not only in the laboratory but also in BEEpilot, an energy-efficient structure that is constantly monitored to assess the long-term performance of various components. The study aimed to analyse CLIMA CONTROL's performance in response to normal variations in humidity within a building.





CLIMA CONTROL was installed in both the walls and roof to test its efficacy under different conditions

ROOF: two similar stratigraphies were tested, differing only in the type of membrane protecting the insulation layer

**WALL:** a ventilated wall without cladding, and another wall with a GROUND BAND waterproof sheath were tested to simulate the detail of the ground connection

## INITIAL CONDITIONS

Monitoring started at the end of January, following a few days with the humidifier turned on to increase the concentration of humidity and create more severe initial conditions.



## DRYING

Monitoring showed that in August, the temperatures within the stratigraphy had risen and the humidity had notably decreased.



The monitoring project will continue over the next few years to assess the long-term performance of the stratigraphies. The aim is to observe humidity variations in the stratigraphy under real, often variable and unpredictable conditions.



This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.

## BEEpilot - ROOF A

- 1 galvanized sheet metal cladding with 0,7 mm double seam
- 2 4 mm honeycomb waterproof sheath
- 3 OSB panel 15 mm
- 4 non-ventilated air gap with 60 mm wooden substructure
- BYTUM SLATE 3500 + BYTUM BASE 2500
- 6 35 mm cement-bonded mineralised wood fibre insulation
- 7 60 x 160 mm timber batten frame structure
- 80 + 80 mm rock wool thermal and acoustic insulation
- CLIMA CONTROL



## BEEpilot - ROOF B

- galvanized sheet metal cladding with 0,7 mm double seam
- 2 4 mm honeycomb waterproof sheath
- 3 OSB panel 15 mm
- 4 non-ventilated air gap with 60 mm wooden substructure
- 5 TRASPIR WELD EVO 360
- 6 35 mm cement-bonded mineralised wood fibre insulation
- 7 60 x 160 mm timber batten frame structure
- 80 + 80 mm rock wool thermal and acoustic insulation
- CLIMA CONTROL

0

10

20 30

temperature [°C]

40







## INITIAL CONDITIONS

80 90

relative humidity [%]

100

50 60 70

## BEEpilot - WALL A

- 1 35 mm cement-bonded mineralised wood fibre insulation
- 2 CLIMA CONTROL vapour barrier
- 3 OSB panel 15 mm
- 4 80 + 80 mm rock wool thermal and acoustic insulation
- 5 60 x 160 mm timber batten frame structure
- 6 35 mm cement-bonded mineralised wood fibre insulation
- **TRASPIR EVO 160**

## BEEpilot - WALL B

- **CLIMA CONTROL** vapour barrier
- 2 OSB panel 15 mm
- 3 80 + 80 mm rock wool thermal and acoustic insulation
- 4 60 x 160 mm timber batten frame structure
- **GROUND BAND**
- 6 35 mm cement-bonded mineralised wood fibre insulation
- **TRASPIR EVO 160**
- 80 mm rock wool thermal and acoustic insulation
- 9 ventilated air gap with 70 mm metal substructure
- 10 cladding in 8 mm plastic panels



INITIAL CONDITIONS





## CLIMA CONTROL 80

## MEMBRANE WITH VARIABLE VAPOUR DIFFUSION

## VARIABLE DIFFUSION

Variable resistance to vapour diffusion: maximum protection for walls and excellent security in insulation.

## TRANSPARENCY

Easy to install thanks to its transparent quality; controls the passage of water vapour based on climate and humidity.

## SCIENTIFICALLY TESTED

The product has been researched and tested by external scientific bodies who have also simulated its behaviour in real conditions.





## COMPOSITION

(1) top layer: PA functional film

(2) bottom layer: non-woven PP fabric

## CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
CLIMA80	CLIMA CONTROL 80	-	1,5	50	75	5	164	807	81
CLIMA8030	CLIMA CONTROL 80	-	3	50	150	10	164	1615	81



## EASY INSTALLATION

Ideal for installation directly on the substructure (struts or joists), thanks to its slight transparency.

## RETROFIT

Thanks to its ability to adapt vapour diffusion according to the hygrometric conditions of the materials it comes into contact with, it is ideal for energy refurbishment of existing buildings.

## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	80 g/m <sup>2</sup>	0.26 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,22 mm	9 mil
Variable water vapour transmission (Sd)	EN 1931/EN ISO 12572	0,15/5 m	23/0.7 US Perm
Tensile strength MD/CD	EN 12311-2	> 120/90 N/50 mm	> 14/10 lbf/in
Elongation MD/CD	EN 12311-2	50/50 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 40/40 N	> 9/9 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity (λ)	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	1700 J/(kg·K)	-
Density	-	approx. 400 kg/m <sup>3</sup>	approx. 25 lbm/ft <sup>3</sup>
Variable water vapour resistance factor ( $\mu$ )	-	approx. 1000/25000	approx. 0,75/25 MNs/g
VOC	-	0 %	-

Twaste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)	ASTM E96/ E96M	1.86/10.6 US Perm 106/605 ng/(s·m²·Pa)
Water vapour transmission (wet cup)	ASTM E96/ E96M	1.86/10.6 US Perm 106/605 ng/(s·m <sup>2</sup> ·Pa)
Vapour barrier	ASTM E 2178-13	compliant < 0.02 L/(sm²) at 75Pa



## (A) DRY LAYERS: Sd 5 m

<u>maximum protection</u> - vapour control layer to limit the passage of vapour in view of the season when moisture accumulates within the layers

B HUMID LAYERS: Sd 0,15 m <u>maximum breathability</u> - breathable membrane to allow drying during the reverse steam diffusion phenomenon

### C DRY LAYERS: Sd 5 m

maximum protection for the start of a new year and a new cycle



## HYGROMETRIC PROPERTIES

The special PA film gives the product the ability to adapt to the hygrometric conditions of the building. If the membrane comes into contact with high humidity levels, it transforms from a vapour barrier into a breathable product, guaranteeing that the structure remains dry.

## **CLIMA CONTROL 105**

MEMBRANE WITH VARIABLE VAPOUR DIFFUSION

## WIDE RANGE

Highly variable vapour diffusion resistance (0.1 - 20 m) that gives the product the ability to adapt to the hygrometric conditions of the structure.

## EASY INSTALLATION

Thanks to its transparency, the membrane is immediately installed on the substructure.

## RELIABLE

The special PA film ensures maximum protection for walls and excellent security in insulation.





## COMPOSITION

(1) top layer: PA functional film

(2) bottom layer: non-woven PP fabric

## CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
CLIMA105	CLIMA CONTROL 105	-	1,5	50	75	4.93	165	808	36



## SMART

It is breathable when internal relative humidity is too high, and serves as a vapour control layer when internal humidity is at suitable levels.

## RETROFIT

Thanks to its ability to adapt vapour diffusion according to the hygrometric conditions of the materials it comes into contact with, it is ideal for energy refurbishment of existing buildings.

## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	105 g/m <sup>2</sup>	0.34 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0.4 mm	16 mil
Variable water vapour transmission (Sd)	EN 1931/EN ISO 12572	0,1/20 m	35/0.175 US Perm
Tensile strength MD/CD	EN 12311-2	> 175/150 N/50 mm	> 20/17 lb/in
Elongation MD/CD	EN 12311-2	> 60/60 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 140/150 N	> 31/34 lbf
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-40/80 °C	-40/176 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity (λ)	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	1700 J/(kg·K)	-
Density	-	approx. 263 kg/m <sup>3</sup>	16 lbm/ft <sup>3</sup>
Variable water vapour resistance factor ( $\mu$ )	-	250/50000	0.5/100 MNs/g
VOC	-	not relevant	-

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)	ASTM E96/CAN/CGSB-51.33-M89	0.28 US Perm 16 ng/(s·m <sup>2</sup> ·Pa)
Water vapour transmission (dry cup) after artificial ageing	ASTM E96/CAN/CGSB-51.33-M89	0.218 US Perm 12.5 ng/(s·m <sup>2</sup> ·Pa)
Breaking factor CD	ASTM D882-12/CAN/CGSB-51.33-M89	3.51 kN/m 20.1 lbf/in 11.61 MPa



### (A) DRY LAYERS: Sd 20 m

<u>maximum protection</u> - vapour control layer to limit the passage of vapour in view of the season when moisture accumulates within the layers

B HUMID LAYERS: Sd 0,1 m <u>maximum breathability</u> - breathable membrane to allow drying during the reverse steam diffusion phenomenon

### C DRY LAYERS: Sd 20 m

maximum protection for the start of a new year and a new cycle



## TRANSPARENT

The transparency of the product makes it easy to identify the strut when it is installed directly on the frame structure.

## **CLIMA CONTROL NET 145**

## MEMBRANE WITH VARIABLE VAPOUR DIFFUSION AND REINFORCEMENT GRID

## ENERGY RECONDITIONING

Ideal to increase energy performance for packages and solutions for reconditioning of existing structures.

## VARIABLE DIFFUSION

Variable resistance to vapour diffusion: maximum protection for walls and excellent reliability in insulation.

## BLOWING

The reinforcement grid offers great resistance to the membrane, even in the event of pressure caused by the insulating material being blown.



CE



## COMPOSITION

(1) top layer: PA functional film

(2) reinforcing layer: reinforcing PE grid

(3) bottom layer: non-woven PP fabric

## CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
CLIMA145	CLIMA CONTROL NET 145	-	1,5	50	75	5	164	807	36



## REINFORCING GRID

The reinforcement grid ensures excellent dimensional stability even when laid on a soft, non-continuous support and therefore with possible mechanical stresses.

## SAFETY

During installation of the insulation layer by means of blowing, mechanical stresses are applied which the reinforcement grid can compensate for.

## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	145 g/m <sup>2</sup>	0.48 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,6 mm	24 mil
Variable water vapour transmission (Sd)	EN 1931/EN ISO 12572	0,15/5 m	23/0.7 US Perm
Tensile strength MD/CD	EN 12311-2	> 440/400 N/50 mm	50/46 lbf/in
Elongation MD/CD	EN 12311-2	> 15/15 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 300/250 N	67/56 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-40/80 °C	-40/176 °F
Indirect exposure to UV rays	-	2 weeks	-
Thermal conductivity $(\lambda)$	-	approx. 0,2 W/(m K)	0.12 BTU/h·ft·°F
Specific heat	-	approx. 1700 J/(kg·K)	-
Density	-	approx. 245 kg/m <sup>3</sup>	approx. 15 lbm/ft <sup>3</sup>
Variable water vapour resistance factor $(\mu)$	-	approx. 250/8333	approx. 0.75/25 MNs/g
VOC	-	0 %	-
Waste classification (2014/955/EU): 17 02 03.			

USA and CA Properties	standard	value
Water vapour transmission (dry cup)(*)	ASTM E96/ E96M	1.86 US Perm 106 ng/(s·m²·Pa)
Water vapour transmission (wet cup) <sup>(*)</sup>	ASTM E96/ E96M	10.6 US Perm 605 ng/(s·m <sup>2.</sup> Pa)
Vapour barrier <sup>(*)</sup>	ASTM E 2178-13	compliant < 0.02 L/(sm²) at 75Pa

(\*) CLIMA CONTROL 145 belongs to the same product family as CLIMA CONTROL 80, making the results applicable to this product also.



### (A) DRY LAYERS: Sd 5 m

<u>maximum protection</u> - vapour control layer to limit the passage of vapour in view of the season when moisture accumulates within the layers

B HUMID LAYERS: Sd 0,15 m <u>maximum breathability</u> - breathable membrane to allow drying during the reverse steam diffusion phenomenon

### C DRY LAYERS: Sd 5 m

maximum protection for the start of a new year and a new cycle



## TRANSPARENCY

Easy to install thanks to the slightly transparent structure, it allows the interception of the underlying structure.

## **CLIMA CONTROL NET 160**

## MEMBRANE WITH VARIABLE VAPOUR DIFFUSION AND REINFORCEMENT GRID

## VARIABLE DIFFUSION

Variable resistance to vapour diffusion: maximum protection for walls and excellent security in insulation.

## ENERGY RECONDITIONING

(1) top layer: non-woven PP fabric

reinforcing layer: reinforcing PE grid

bottom layer: PA functional film

Ideal to increase energy performance for packages and solutions for reconditioning of existing structures.

## **REINFORCING GRID**

COMPOSITION

(2)

(3)

Thanks to its composition, the membrane is not affected by mechanical stresses caused by staples, nails or wear caused by walking.





CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
CLIMATT160	CLIMA CONTROL NET 160 TT	TT	1,5	50	75	5	164	807	25



## WEAR RESISTANCE

During installation on the roof, mechanical stresses are applied due to wear from walking, which the reinforcement grid can compensate for.

## SMART

It is breathable when internal relative humidity is too high, and serves as a vapour control layer when internal humidity is at suitable levels.





## TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	160 g/m <sup>2</sup>	0.52 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,5 mm	20 mil
Variable water vapour transmission (Sd)	EN 1931/EN ISO 12572	0,5/5 m	7/0.7 US Perm
Maximum tensile force MD/CD <sup>(1)</sup>	EN 12311-2	400/270 N/50 mm	46/31 lbf/in
Elongation MD/CD <sup>(1)</sup>	EN 12311-2	20/20 %	-
Resistance to nail tearing MD/CD <sup>(1)</sup>	EN 12310-1	240/250 N	54/56 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(2)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 320 kg/m <sup>3</sup>	approx. 20 lbm/ft <sup>3</sup>
Variable water vapour resistance factor ( $\mu$ )	-	approx. 1000/10000	approx. 2.5/25 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 250 cm	> 98 in

<sup>(1)</sup>Average values obtained from laboratory tests. Consult the Declaration of Performance for the minimum values.

<sup>(2)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 4 weeks.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Dry/wet cup water vapour transmission	ASTM E96/ E96M	2.86/7.91 US Perm 153/452 ng/(s·m <sup>2</sup> ·Pa)



### (A) DRY LAYERS: Sd 5 m

maximum protection - vapour control layer to limit the passage of vapour in view of the season when moisture accumulates within the layers

### B HUMID LAYERS: Sd 0.5 m

maximum breathability - breathable membrane to allow drying during the reverse steam diffusion phenomenon

### C DRY LAYERS: Sd 5 m

maximum protection for the start of a new year and a new cycle



## HYGROMETRIC PROPERTIES

The special PA film gives the product the ability to adapt to the hygrometric conditions of the building. If the membrane comes into contact with high humidity levels, it transforms from a vapour control layer into a breathable product, keeping the structure and planking dry.

## VAPOR NET 110

VAPOUR CONTROL MEMBRANE WITH REINFORCEMENT GRID

## 

- (1) top layer: vapour control PE film
- (2) reinforcing layer: reinforcing PE grid
- (3) bottom layer: non-woven PP fabric





## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	110 g/m <sup>2</sup>	0.36 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,3 mm	12 mil
Water vapour transmission (Sd)	EN 1931	5 m	0.7 US Perm
Tensile strength MD/CD	EN 12311-2	> 200/250 N/50 mm	23/29 lbf/in
Elongation MD/CD	EN 12311-2	> 25/25 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 170/170 N	38/38 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature		-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336 h (3 months)	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 370 kg/m <sup>3</sup>	approx. 23 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 16700	approx. 25 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 250 cm	> 98 in

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 2 weeks.

Waste classification (2014/955/EU): 17 02 03.

## CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
V110	VAPOR NET 110	-	1,5	50	75	5	164	807	36

## 234 | VAPOR NET 110 | VAPOUR BARRIERS AND CONTROL LAYERS

## VAPOUR CONTROL MEMBRANE

## **COMPOSITION**

- (1) top layer: non-woven PP fabric
- (2) middle layer: vapour control PP film
- (3) bottom layer: non-woven PP fabric





## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	140 g/m <sup>2</sup>	0.46 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,45 mm	18 mil
Water vapour transmission (Sd)	EN 1931	10 m	0.35 US Perm
Tensile strength MD/CD	EN 12311-2	> 230/180 N/50 mm	26/21 lbf/in
Elongation MD/CD	EN 12311-2	> 35/40 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 125/145 N	28/33 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 310 kg/m <sup>3</sup>	approx. 19 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 22000	approx. 50 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 250 cm	> 98 in

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks.

Waste classification (2014/955/EU): 17 02 03

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
V140	VAPOR 140	-	1,5	50	75	5	164	807	30

## **VAPOR 150** VAPOUR CONTROL MEMBRANE

## **COMPOSITION**

- (1) top layer: non-woven PP fabric
- (2) middle layer: vapour control PP film
- (3) bottom layer: non-woven PP fabric





## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	150 g/m <sup>2</sup>	0.49 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,5 mm	20 mil
Water vapour transmission (Sd)	EN 1931	13 m	0.269 US Perm
Tensile strength MD/CD	EN 12311-2	> 250/200 N/50 mm	29/23 lbf/in
Elongation MD/CD	EN 12311-2	> 35/40 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 130/150 N	29/34 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 300 kg/m <sup>3</sup>	approx. 19 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 26000	approx. 65 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 250 cm	> 98 in

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks.

Waste classification (2014/955/EU): 17 02 03

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	33
V150	VAPOR 150	-	1,5	50	75	5	164	807	30
VTT150	VAPOR 150 TT	TT	1,5	50	75	5	164	807	30

## **VAPOR NET 180**

## VAPOUR CONTROL MEMBRANE WITH REINFORCEMENT GRID

## 

- (1)top layer: non-woven PP fabric
- (2) reinforcing layer: reinforcing PP grid
- (3) middle layer: vapour control PE film
- bottom layer: non-woven PP fabric (4)





## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	180 g/m <sup>2</sup>	0.59 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,6 mm	24 mil
Water vapour transmission (Sd) <sup>(1)</sup>	EN 1931	10 m	0.35 US Perm
Maximum tensile force MD/CD <sup>(1)</sup>	EN 12311-2	320/300 N/50 mm	37/34 lbf/inch
Elongation MD/CD <sup>(1)</sup>	EN 12311-2	10/10 %	-
Resistance to nail tearing MD/CD <sup>(1)</sup>	EN 12310-1	250/290 N	56/65 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-40/80 °C	-40/176 F °
UV stability <sup>(2)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity $(\lambda)$	-	0,4 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1700 J/(kg·K)	-
Density	-	approx. 300 kg/m <sup>3</sup>	approx. 19 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 16700	approx. 50 MNs/g
VOC	-	not relevant	-

<sup>(1)</sup> Average values obtained from laboratory tests. Consult the Declaration of Performance for the minimum values. <sup>(2)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 2 weeks.

Waste classification (2014/955/EU): 17 02 03

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	<b>B</b>
V180	VAPOR NET 180	-	1,5	50	75	5	164	807	25
VTT180	VAPOR NET 180 TT	TT	1,5	50	75	5	164	807	25

## VAPOR EVO 190

## HIGH PERFORMANCE VAPOUR CONTROL MEMBRANE

## NEW GENERATION

It is part of the EVO membrane family because it contains a special film that ensures durability and high UV stability.

## UV STABILITY

Its formulation achieves UV stability for up to 6 months, offering maximum protection to the roof and underlying structure.

## HIGH THERMAL RESISTANCE

The special mix of the functional film allows the product to guarantee its performance even when subjected to high thermal stress in extreme climatic conditions.

## COMPOSITION

- (1) top layer: highly UV-stable non-woven PP fabric
- (2) middle layer: EVO PE functional film
- (3) bottom layer: non-woven PP fabric





## CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	B
VEVO190	VAPOR EVO 190	-	1,5	50	75	5	164	807	20
VTTEVO190	VAPOR EVO 190 TT	TT	1,5	50	75	5	164	807	20



## PROTECTION

Maximum protection against wear and heavy rain during installation/construction. The monolithic film ensures impermeability even under high mechanical wear and tear and contact with aggressive chemicals.

## SECURE SEALING

Installation and sealant can be done perfectly, thanks to integrated double tape and the adherence offered by the lower support fabric.



DURABILITY

ABRASIO

## TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	190 g/m <sup>2</sup>	0.62 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,6 mm	24 mil
Water vapour transmission (Sd)	EN 1931	5 m	0.7 US Perm
Maximum tensile force MD/CD <sup>(1)</sup>	EN 12311-2	480/500 N/50 mm	55/57 lbf/in
Elongation MD/CD <sup>(1)</sup>	EN 12311-2	65/65 %	-
Resistance to nail tearing MD/CD <sup>(1)</sup>	EN 12310-1	265/320 N	60/72 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	<0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	0 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	40/100 °C	104/212 F
UV stability <sup>(2)</sup>	EN 13859-1/2	1000 h (8 months)	-
Water column	ISO 811	600 cm	236 in
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1700 J/(kg·K)	-
Density	-	approx. 316 kg/m <sup>3</sup>	approx. 20 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 8300	approx. 25 MNs/g
VOC	-	not relevant	-
Joint strength	EN 12317-2	150 N/50 mm	17 lbf/in

(1) Average values obtained from laboratory tests. Consult the Declaration of Performance for the minimum values.

<sup>(2)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 10 weeks.

Waste classification (2014/955/EU): 17 02 03.

## RELATED PRODUCTS



FLEXI BAND UV page 80



LIZARD page 388



BLACK BAND page 144



## THERMAL AND CHEMICAL STABILITY

Resistant up to 100°C, it is not affected by chemicals that it may come into contact with during roof work or through pollution in the air.

## VAPOR 225





## RELIABLE

The mass per unit area of the membrane provides mechanical strength and protection during construction.

## PROTECTION

It is also suitable for applications on uneven and rough supports, which could damage lighter vapour control layers.

## COST/PERFORMANCE

Cost-effective membrane, ensuring high performance and protection against weathering.



(1) top layer: non-woven PP fabric

(2) middle layer: vapour control PP film

(**3**) **bottom layer**: non-woven PP fabric



## CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
V225	VAPOR 225	-	1,5	50	75	5	164	807	20
VTT225	VAPOR 225 TT	TT	1,5	50	75	5	164	807	20



## SECURE SEALING

The TT version offers fast installation and professional sealing thanks to the integrated double tape.

## FLEXIBILITY

Although the membrane is very thick and resistant, its composition ensures great flexibility in processing without the risk of material wear.

## **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	225 g/m <sup>2</sup>	0.74 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,8 mm	31 mil
Water vapour transmission (Sd)	EN 1931	4 m	0.87 US Perm
Tensile strength MD/CD	EN 12311-2	> 380/300 N/50 mm	> 43/34 lbf/in
Elongation MD/CD	EN 12311-2	60/80 %	-
Resistance to nail tearing MD/CD	EN 12310-1	> 225/300 N	> 51/67 lbf
Watertightness	EN 1928	compliant	-
Water vapour resistance:			
- after artificial ageing	EN 1296/EN 1931	compliant	-
- in the presence of alkalis	EN 1847/EN 12311-2	npd	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Resistance to temperature	-	-20/80 °C	-4/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 280 kg/m <sup>3</sup>	approx. 17 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 5000	approx. 20 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 500 cm	> 197 in

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 4 weeks.

Waste classification (2014/955/EU): 17 02 03.

## RELATED PRODUCTS



FLEXI BAND page 78



LIZARD page 388



MANICA FLEX page 148



## WEAR RESISTANCE

Thanks to its high mass per unit area, it ranks among the most strongest vapour control layers on the market, providing protection for common construction phases.

## RECOMMENDATIONS FOR INSTALLATION: CLIMA CONTROL 160 AND VAPOR



APPLICATION ON ROOF - EXTERNAL SIDE



1 CLIMA CONTROL 160, VAPOR NET 110, VAPOR 140, VAPOR 150, VAPOR 150, VAPOR NET 180, VAPOR EVO 190, VAPOR 225

- 2 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES
- 5a ROTHOBLAAS TAPE ROLLER
- 5b DOUBLE BAND, SUPRA BAND, BUTYL BAND

OUTSIDE GLUE

242 | RECOMMENDATIONS FOR INSTALLATION: CLIMA CONTROL 160 AND VAPOR | VAPOUR BARRIERS AND CONTROL LAYERS

## Your safety is ours too

From façades to roofs, from wind turbines to confined spaces, our safety devices offer **100% protection**.

Turn to us for your fall protection systems: a **single point of contact**, custom designs, supports, tools and fasteners all tested in our Gravity Lab and certified by third-party bodies.

Your safety is ours too:





Solutions for Safety



# BREATHABLE

## BREATHABLE

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TRASPIR FELT EVO UV 210BREATHABLE MONOLITHIC MEMBRANERESISTANT TO UV RAYS271
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## MONOLITHIC AND MICROPOROUS

The family of synthetic breathable membranes and vapour control layers and barriers (that is, membranes made of materials deriving from polymers) offer different properties as a function of the production technologies and raw materials used in processing.

Breathable membranes can be categorised into two main types: MICROPOROUS and MONOLITHIC.

## MICROPOROUS MEMBRANES

## CHARACTERISTICS

Resistance to temperature	$\bullet \circ \circ$
Durability and stability with ageing	$\bullet \bullet \bigcirc$
UV stability	$\bullet \bullet \bigcirc$
Chemical stability	•00
Fire behaviour	•00
Breathability (water vapour)	•••
Watertightness	$\bullet \bullet \bigcirc$
Airtightness	$\bullet \bullet \circ$
Resistance to heavy rain	$\bullet \bullet \bigcirc$
Mechanical resistance	•••
Slipping resistance	•••
Resistance to pollutants	000

**Membrane with functional microporous layer**, obtained through the production process. The type of polymer used (PP or PE) and processing employed results in a breathable, functional, cost-effective membrane, but more susceptible to thermal stress and UV radiation.

production of non-woven fabric microporous film

Microscope image of a microporous membrane section. **Upper part:** microporous film. **Lower part:** support and protection fibre filaments.



## MONOLITHIC MEMBRANES



## CHARACTERISTICS

Resistance to temperature	•••
Durability and stability with ageing	•••
UV stability	•••
Chemical stability	•••
Fire behaviour	$\bullet \bullet \bigcirc$
Breathability (water vapour)	•••
Watertightness	•••
Airtightness	•••
Resistance to heavy rain	•••
Mechanical resistance	•••
Resistance to pollutants	•••

**Membrane with a homogeneous and continuous,** naturally breathable functional layer. The superior-quality polymer used (TPE, TPU or acrylic) and processing employed results in a high-performance membrane that is highly resistant to weathering and ageing.



Microscope image of a monolithic membrane section. Upper part: monolithic film. Lower part: support and protection fibre filaments.



**Microporous** films are made from hydrophobic polymers, which are themselves incapable of interacting with water and vapour. **Special processing is required to make the film breathable**, which, however, stiffens and makes it more vulnerable to pollutants.

MICROPOROUS MEMBRANES

**Monolithic** films are made from hydrophilic polymers, which are naturally able to chemically interact with water and vapour. **The production process does not stress the polymer**, preserving the film's elasticity and resistance to pollutants.

## MONOLITHIC MEMBRANES



## **MICROPOROUS MEMBRANES**

## MONOLITHIC MEMBRANES

RESISTANCE TO ULTRAVIOLET RADIATION

### RESISTANCE TO ULTRAVIOLET RADIATION



The more sources of stress act simultaneously, the greater the degradation of polymers.

In the production process, microporous films are subjected to mechanical stress, which stiffens the membrane.

Prolonged exposure of the microporous membrane to ultraviolet radiation **accelerates the degradation of the polymer**, **adding an extra source of stress**. Respecting the maximum UV exposure of the membrane is important in order not to compromise the durability of the functional film. No mechanical or thermal stresses are applied in the production process of monolithic films. When a monolithic membrane is exposed to ultraviolet radiation, this is the sole source of stress for the functional film. Degradation is therefore less than that of a microporous film.

**Monolithic membranes are invariably more resistant to UV rays**. However, it is important to respect the maximum UV exposure of the membrane in order not to compromise the durability of the functional film.

### MONOLITHIC MEMBRANES: PROVEN HIGH DURABILITY

As part of the MEZeroE project, the Cracow University of Technology subjected monolithic membranes and the monolithic membranes + tape system to artificial ageing through exposure to UV rays and heat. The Politecnico di Milano tested naturally aged samples after direct exposure to weathering. In both cases, **the results show that monolithic membranes are extremely resistant to ageing and guarantee high durability**.





This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.

### WATER REPELLENCY

All membrane surfaces are designed to be water-repellent. Water repellency can be provided through the choice of materials or by exploiting the texture of the surface. This is an important feature because it helps to keep the membrane dry.

### HYDROFOBICITY

In some cases (e.g. TRASPIR EVO 300), the surfaces are made hydrophobic with a special treatment to further reduce interaction with water (the mechanism of non-interaction with water is similar to that of water repellency but is even more pronounced).





## MEZEROE

## MATERIALS, PROPERTIES AND TECHNOLOGIES

The different characteristics of the products depend on production technology and raw materials used, which are generally VOC and solvent-free. Below is a list of polymers used in Rothoblaas products, and their relative specifications:

RAW MATERIAL USED FOR FUNCTIONAL FILM	STRENGTHS	FINISHED PRODUCT TECHNOLOGY	ROTHOBLAAS PRODUCTS USED IN
Acrylic	<ul> <li>Resistance to temperature</li> <li>Permanent UV stability</li> <li>Low reaction to fire</li> <li>High durability</li> </ul>	Monolithic, spread in 2 layers	TRASPIR EVO 300 TRASPIR EVO UV 210
Thermoplastic polyurethane (TPU or PU)	<ul><li>Resistance to temperature</li><li>Flexibility and workability</li><li>UV stability</li></ul>	Monolithic, spread or 3 layers	TRASPIR WELD EVO 360 TRASPIR EVO FELT UV 210 TRASPIR EVO UV 115 TRASPIR EVO SEAL 200
Thermoplastic polyester (TPE)	<ul><li>Resistance to temperature</li><li>Mechanical resistance</li><li>UV stability</li></ul>	Monolithic, 3 layers	TRASPIR EVO 220 TRASPIR DOUBLE EVO 340
Polyamide (PA)	<ul> <li>Variable resistance to penetra- tion of water vapour</li> <li>Resistance to high temperatures</li> </ul>	Monolithic, 2 or more layers	CLIMA CONTROL 80 CLIMA CONTROL 105 CLIMA CONTROL NET 145 CLIMA CONTROL NET 160
Polyethylene (PE)	<ul><li>Dimensional stability</li><li>Chemical stability</li></ul>	Monolithic, spread in 1 or more layers	BARRIER SD40 BARRIER SD150 BARRIER ALU NET SD150 BARRIER ALU NET SD1500
Polypropylene (PP)	<ul><li>Mechanical resistance</li><li>Flexibility and workability</li><li>Resistance to temperature</li></ul>	Microporous or coated	Highly breathable membranes (e.g. TRASPIR 150) Vapour control layers (e.g. VAPOR 150)

RAW MATERIAL USED FOR SUPPORT OR REINFORCING LAYER	STRENGTHS	FUNCTION
Polyester (PL)	<ul><li>Resistance to temperature</li><li>UV stability</li><li>Mechanical resistance</li><li>Elasticity</li></ul>	Support for spread monolithic products TRASPIR EVO UV 210 TRASPIR EVO 300
Polypropylene (PP)	<ul><li>Mechanical resistance</li><li>Abrasion resistance</li><li>High flexibility and workability</li></ul>	Support or protective layers for microporous or monolithic membranes
Aluminium	<ul><li> Reflective</li><li> Increases resistance to penetration of water vapour</li></ul>	Cladding for certain reflective products BARRIER ALU FIRE A2 SD2500 BARRIER ALU NET SD1500 TRASPIR ALU 200 TRASPIR ALU FIRE 430

## **TRASPIR 95** HIGHLY BREATHABLE MEMBRANE FOR WALLS



## **COMPOSITION**

- (1) top layer: non-woven PP fabric
- (2) middle layer: PP breathable film
- (3) bottom layer: non-woven PP fabric





## **TECHNICAL DATA**

AUS

4200.1 Class 4

USA

vp

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	95 g/m <sup>2</sup>	0.31 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0.4 mm	16 mil
Water vapour transmission (Sd)	EN 1931	0,02 m	175 US Perm
Tensile strength MD/CD	EN 12311-1	210/105 N/50 mm	24/12 lbf/in
Elongation MD/CD	EN 12311-1	65/70 %	-
Resistance to nail tearing MD/CD	EN 12310-1	75/90 N	17/20 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	190/90 N/50 mm	22/10 lbf/in
- elongation	EN 1297/EN 12311-1	45/45 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,05 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.003 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 238 kg/m <sup>3</sup>	approx. 15 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 50	approx. 0.1 MNs/g
VOC	-	not relevant	-

ASTM

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 2 weeks.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vanour transmission (dry oun)(2)		125 US Perm
Water vapour transmission (dry cup) <sup>(2)</sup>	ASTM E90/E90M	7115 ng/(s·m²·Pa)

<sup>(2)</sup>TRASPIR 95 belongs to the same product family as TRASPIR 150, making the results applicable to this product also.

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
Т95	TRASPIR 95	-	1,5	50	75	5	164	807	46



## **TRASPIR 110** HIGHLY BREATHABLE MEMBRANE

## CERTIFIED

Approved by external bodies Sintef (Norway) and CSTB (France) for use as a waterproof underlay.

## ENVIRONMENTAL DECLARATION

Verified by an independent third party. Transparent, comparable information on its environmental impact is available, starting with the life cycle assessment.

## PRACTICAL

Light and easy to install, it protects the envelope and acts as a wind-tight layer.

### 

(1) top layer: non-woven PP fabric

(2) middle layer: PP breathable film

(3) bottom layer: non-woven PP fabric

### 3,0 m USA AUS CH SIA 232 UD (fU) E1 Sd1 TR1 F450. If C2 IRC VP USB-A D/R1 4200.1 Class 4 300Pa LIGHT EASY CAN2-51.32-M77 CAN/ ULC-S741 ASTM TESTED TESTED PASS



## CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	B
T110	TRASPIR 110	-	1,5	50	75	5	164	807	36
T11030	TRASPIR 110 3,0 m	-	3	50	150	10	164	1615	36



## SAFE

It has passed ASTM E331 and Sintef water penetration resistance testing, guaranteeing a waterproof barrier at 300 Pa, making it the ideal solution for providing temporary protection during construction and in the event of accidental breaks in the cladding.


Properties	standard	value	USC units
Mass per unit area	EN 1849-2	112 g/m <sup>2</sup>	0.37 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0.4 mm	16 mil
Water vapour transmission (Sd)	EN 1931	0,03 m	116 PERM
Tensile strength MD/CD	EN 12311-1	250/165 N/50 mm	29/19 lbf/in
Elongation MD/CD	EN 12311-1	50/70 %	-
Resistance to nail tearing MD/CD	EN 12310-1	115/135 N	26/30 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	220/145 N/50 mm	25/17 lbf/in
- elongation	EN 1297/EN 12311-1	40/60 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-30 °C	-22 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 275 kg/m <sup>3</sup>	approx. 17 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 75	approx. 0.15 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 280 cm	> 110 in
Driving rain test	TU Berlin	passed	-

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 2 weeks. The QB 20-01-003 certificate (France) allows up to 3 months of exposure during construction.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)	ASTM E96/ E96M CAN2-51.32-M77	101 US Perm 5810 ng/(s·m <sup>2</sup> ·Pa)
Airtightness	ASTM E2178	compliant
Airtightness (before and after ageing)	CAN/ULC-S741	compliant
Pliability	CAN2-51.32-M77	compliant
Resistance to water penetration at 300 Pa on wall	ASTM E331	compliant
Tensile strength	ASTM D828	4,67 N/mm

#### **RESISTANCE TO WATER PENETRATION**

TRASPIR 110 has been tested in accordance with ASTM E331 to confirm its effectiveness against water jets at 75 Pa and 300 Pa and sealed with FLEXI BAND.





# **TRASPIR EVO UV 115**

# BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS

#### SAFETY

High watertightness and excellent weather resistance thanks to the special monolithic mix.

#### B-s1,d0

Flame retardant certification, Euroclass reaction to fire B-s1, d0 based on EN 13501-1.

#### PERMANENT UV STABILITY

Permanent resistance to UV rays with exposure with open joints up to 30 mm wide, and with up to 20% of the surface uncovered.



CE



#### **COMPOSITION**

- (1) top layer: highly UV-stable non-woven PP fabric
- (2) bottom layer: monolithic PU coated breathable film



#### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TUV115	TRASPIR EVO UV 115	-	1,5	50	75	5	164	807	36



### **UV STABILITY**

The special monolithic compound ensures high UV stability even with open-joint façades.

#### INNOVATION

The membrane features innovative technology allowing it to be used even on metal façades subject to high temperature fluctuations, without compromising its performance.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	115 g/m <sup>2</sup>	0.38 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,3 mm	12 mil
Water vapour transmission (Sd)	EN 1931	0,08 m	44 US Perm
Tensile strength MD/CD	EN 12311-1	150/110 N/50 mm	17/13 lbf/in
Elongation MD/CD	EN 12311-1	90/90 %	-
Resistance to nail tearing MD/CD	EN 12310-1	130/170 N	29/38 lbf
Watertightness	EN 1928	class W1	-
After artificial ageing <sup>(1)</sup>			
- watertightness at 120°C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	> 98/72 N/50 mm	> 11/8 lbf/in
- elongation	EN 1297/EN 12311-1	> 59/59 %	-
Reaction to fire	EN 13501-1	class B-s1,d0	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/120 °C	-40/248 °F
UV resistance without final coating <sup>(2)</sup>	EN 13859-1/2	5000h (> 12 months)	-
UV stability with joints up to 30 mm wide exposing no more than 20% of the surface <sup>(3)</sup>	EN 13859-2	permanent	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 380 kg/m <sup>3</sup>	approx. 24 oz/in <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 270	approx. 0.4 MNs/g
VOC	-	0 %	-
Water column	ISO 811	> 500 cm	> 197 in
Driving rain test	TU Berlin	passed	-

<sup>(1)</sup>Ageing conditions are tested in accordance with EN 13859-2, Annex C, extended to 5000h (standard 336h).

(2) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 10 weeks. According to DTU 31.2 P1-2 (France) 5000h of UV ageing equates to a maximum exposure period of 6 months during the construction phase.
(3) The membrane is not intended as a final waterproof layer for roofs.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Surface burning characteristics	ASTM E84	class 1 or class A
Flame spread index (FSI)	ASTM E84	15
Smoke Developed Index (SDI)	ASTM E84	160

### ARTIFICIAL AGEING

As part of the MEZeroE project, the Cracow University of Technology subjected the membrane alone and the TRASPIR EVO UV 115 membrane + FLEXI BAND UV tape system to artificial ageing through exposure to UV rays and heat.





This test is part of the MEZeroE project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 953157.

# TRASPIR ALU 120

HIGHLY BREATHABLE MEMBRANE

#### **COMPOSITION**

(1) top layer: aluminium film

(2) bottom layer: PP breathable film

USA IRC VP AS/NZS 42001 Class 4 F DTU 312 E450 Jf C1	2,7 m 3,0 m
--	-------------



#### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	120 g/m <sup>2</sup>	0.39 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,6 mm	24 mil
Water vapour transmission (Sd)	EN 1931	0,08 m	44 US Perm
Tensile strength MD/CD	EN 12311-1	240/210 N/50 mm	27/24 lbf/in
Elongation MD/CD	EN 12311-1	45/10 %	-
Resistance to nail tearing MD/CD	EN 12310-1	110/110 N	25/25 lbf
Watertightness	EN 1928	class W2	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W2	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,05 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.003 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-20/80 °C	-4/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 200 kg/m <sup>3</sup>	approx. 12 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 133	approx. 0.4 MNs/g
VOC	-	not relevant	-
Reflectivity TALU120	EN 15976	81 %	-
Equivalent thermal resistance with 50 mm air gap	100 0040	R <sub>g,0,025</sub> : 0,804 (m <sup>2</sup> K)/W	4.57 h·ft <sup>2</sup> ·°F/BTU
(ε <sub>other surface</sub> 0.025-0.88) TALU120	150 6946	R <sub>g,0,88</sub> : 0,502 (m <sup>2</sup> K)/W	2.85 h·ft <sup>2</sup> ·°F/BTU
Reflectivity TALU120270	EN 15976	95 %	-
Equivalent thermal resistance with 50 mm air gap	150 6046	R <sub>g,0,025</sub> : 0,821 (m <sup>2</sup> K)/W	4.66 h·ft <sup>2</sup> ·°F/BTU
(ε <sub>other surface</sub> 0.025-0.88) TALU120270	150 0946	R <sub>g,0,88</sub> : 0,731 (m <sup>2</sup> K)/W	4.15 h·ft <sup>2</sup> ·°F/BTU

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 2 weeks.

Waste classification (2014/955/EU): 17 09 04.

## CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TALU120	TRASPIR ALU 120	-	1,5	50	75	5	164	807	26
TALU12027	TRASPIR ALU 120 2,7 m	-	2,7	100	270	8.86	328	2906	20
TALU12030(*)	TRASPIR ALU 120 3,0 m	-	3,0	100	300	9.84	328	3229	12

(\*)Product available on request.

# **TRASPIR 135** HIGHLY BREATHABLE MEMBRANE



# 

(1) top layer: non-woven PP fabric

- (2) middle layer: PP breathable film
- (3) bottom layer: non-woven PP fabric





#### TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	135 g/m <sup>2</sup>	0.44 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,6 mm	24 mil
Water vapour transmission (Sd)	EN 1931	0,02 m	175 US Perm
Tensile strength MD/CD	EN 12311-1	280/190 N/50 mm	32/22 lbf/in
Elongation MD/CD	EN 12311-1	70/110 %	-
Resistance to nail tearing MD/CD	EN 12310-1	135/170 N	30/38 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	250/160 N/50 mm	29/18 lbf/in
- elongation	EN 1297/EN 12311-1	50/50 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,05 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.003 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 225 kg/m <sup>3</sup>	approx. 14 lbm/ft <sup>3</sup>
Water vapour resistance factor $(\mu)$	-	approx. 33	approx. 0.1 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 250 cm	> 98 in

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 2 weeks.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup) <sup>(2)</sup>	ASTM FOG/FOGM	125 US Perm
	ASTM E90/E90M	7115 ng/(s·m²·Pa)
Surface burning characteristics	ASTM E84	class 1 or class A
Flame spread index (FSI)	ASTM E84	20
Smoke Developed Index (SDI)	ASTM E84	90

<sup>(2)</sup>TRASPIR 135 belongs to the same product family as TRASPIR 150, making the results applicable to this product also.

#### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	3
T135	TRASPIR 135	-	1,5	50	75	5	164	807	36
TTT135	TRASPIR 135 TT	TT	1,5	50	75	5	164	807	36

# TRASPIR EVO 135

# MONOLITHIC BREATHABLE MEMBRANE

#### AGEING RESISTANCE

The monolithic structure of the membrane guarantees excellent durability over time, thanks to the special polymers used.

#### SECURE SEALING

The TT version offers fast installation and professional sealing thanks to the integrated double tape.

#### HEAVY RAIN

High protection against heavy rain during temporary exposure to weather during construction.



- (1) top layer: non-woven PP fabric
- (2) middle layer: monolithic breathable film
- (3) bottom layer: non-woven PP fabric



CE



### CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	<b>1</b> 5
TEVO135	TRASPIR EVO 135	-	1,5	50	75	5	164	807	30
TTTEVO135	TRASPIR EVO 135 TT	TT	1,5	50	75	5	164	807	30



### SAFE

The monolithic membrane protects the envelope and improves the durability of the materials, preventing condensation and currents in the insulation layer.

#### COST-PERFORMANCE

The monolithic functional film and reduced mass per unit area makes it possible to obtain an excellent, cost-effective product.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	135 g/m²	0.44 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,45 mm	18 mil
Water vapour transmission (Sd)	EN 1931	0,1 m	35 US Perm
Tensile strength MD/CD	EN 12311-1	200/160 N/50 mm	23/18 lbf/in
Elongation MD/CD	EN 12311-1	90/90 %	-
Resistance to nail tearing MD/CD	EN 12310-1	160/190 N	36/43 lbf
Watertightness	EN 1928	W1	-
After ageing:			
- watertightness at 100°C	EN 1297/EN 1928	W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	160/130 N/50 mm	18/15 lbf/in
- elongation	EN 1297/EN 12311-1	60/60 %	-
Reaction to fire	EN 13501-1	E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/100 °C	-40/212 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	1000h (8 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 300 kg/m <sup>3</sup>	approx. 19 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 220	approx. 0,5 MNs/g
VOC	-	not relevant	-

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 8 weeks. According to DTU 31.2 P1-2 (France) 1000h of UV ageing equates to a maximum exposure period of 3 months during the construction phase.

Transfer Waste classification (2014/955/EU): 17 02 03.

### RELATED PRODUCTS



FLEXI BAND UV page 80



CUTTER page 394



ROLLER page 393



MANICA FLEX page 148



## RELIABLE

The monolithic functional membrane ensures breathability through a chemical reaction. The continuous and homogeneous layer offers a complete barrier against the passage of water and air.

# RECOMMENDATIONS FOR INSTALLATION: TRASPIR

#### **APPLICATION ON WALL - EXTERNAL SIDE**



TRASPIR 95, TRASPIR 110, TRASPIR ALU 120, TRASPIR 135, TRASPIR EVO 135, TRASPIR 150, TRASPIR EVO 160, TRASPIR ALU FIRE A2 430 1

DOUBLE BAND, SUPRA BAND, BUTYL BAND 

2b ROTHOBLAAS TAPE

# RECOMMENDATIONS FOR INSTALLATION: TRASPIR



**APPLICATION ON WINDOW - EXTERNAL SIDE** 





1 TRASPIR 95, TRASPIR 110, TRASPIR SUNTEX 120, TRASPIR 135, TRASPIR EV0 135, TRASPIR 150, TRASPIR EV0 160, TRASPIR ALU FIRE A2 430

2 MARLIN, CUTTER

5 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES

ROTHOBLAAS TAPE 6 ROLLER



# **TRASPIR 150** HIGHLY BREATHABLE MEMBRANE



#### **COMPOSITION**

1 top layer: non-woven PP fabric

(2) middle layer: PP breathable film

(3) bottom layer: non-woven PP fabric





#### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	150 g/m <sup>2</sup>	0.49 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,7 mm	28 mil
Water vapour transmission (Sd)	EN 1931	0,02 m	175 US Perm
Tensile strength MD/CD	EN 12311-1	350/210 N/50 mm	40/24 lbf/in
Elongation MD/CD	EN 12311-1	100/125 %	-
Resistance to nail tearing MD/CD	EN 12310-1	190/225 N	43/51 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	310/180 N/50 mm	35/21 lbf/in
- elongation	EN 1297/EN 12311-1	45/60 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,05 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.003 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature		-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 215 kg/m <sup>3</sup>	approx. 13 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 40	approx. 0.1 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 250 cm	> 98 in

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 2 weeks.

Twaste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)		125 US Perm
	ASTM E90/E90M	7115 ng/(s·m²·Pa)
Surface burning characteristics	ASTM E84	class 1 or class A
Flame spread index (FSI)	ASTM E84	0
Smoke Developed Index (SDI)	ASTM E84	87

#### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	A	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
T150	TRASPIR 150	-	1,5	50	75	5	164	807	28
TTT150	TRASPIR 150 TT	TT	1,5	50	75	5	164	807	28
T15030	TRASPIR 150 3,0 m	-	3	50	150	10	164	1615	20

# **TRASPIR NET 160**

# HIGHLY BREATHABLE MEMBRANE



#### 

- (1) top layer: non-woven PP fabric
- (2) reinforcing layer: reinforcing PP grid
- (3) middle layer: PP breathable film
- (4) bottom layer: non-woven PP fabric





#### TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	160 g/m <sup>2</sup>	0.52 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,7 mm	28 mil
Water vapour transmission (Sd)	EN 1931	0,02 m	175 US Perm
Tensile strength MD/CD	EN 12311-1	420/420 N/50 mm	48/48 lbf/in
Elongation MD/CD	EN 12311-1	25/20 %	-
Resistance to nail tearing MD/CD	EN 12310-1	390/360 N	88/81 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	385/390 N/50 mm	44/45 lbf/in
- elongation	EN 1297/EN 12311-1	20/15 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-20 °C	-4 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,04 W/(m·K)	0.02 BTU/h·ft·°F
Specific heat	-	1568 J/(kg·K)	-
Density	-	approx. 230 kg/m <sup>3</sup>	approx. 14 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 29	approx. 0.1 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 500 cm	> 197 in
Driving rain test	TU Berlin	passed	-

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks.

Waste classification (2014/955/EU): 17 02 03.

AUS and NZ Properties	standard	value
Vapour classification	ASTM E96	class 4
Water vapour permeability	AS/NZS 4200.1	1,471 µg/N s
Resistance to water penetration	AS/NZ 4201.4	water barrier
Flammability index	AS 1530.2	<5 (2)
Duty classification	AS/NZS 4200.1	medium
Tensile strength MD/CD	AS 1301.448s	9,5/8,0 kN/m
Edge tearing resistance MD/CD	AS/NZS 4200.0	496/434 N
Burst strength	AS 2001.2.19/AS/NZS 4200.1	566 N

<sup>(2)</sup>This product is suitable for use in BAL regions 12.5 to 40 in accordance with AS 3959. Wherever non-combustible material is required by the NCC it should be noted that this product is less than 1mm thick and has a flammability index of less than 5.

#### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
T160	TRASPIR NET 160	-	1,5	50	75	5	164	807	25
TTT160	TRASPIR NET 160 TT	TT	1,5	50	75	5	164	807	25

# TRASPIR EVO 160

over time, thanks to the special polymers used.

**REACTION TO FIRE B-s1,d2** 

# MONOLITHIC BREATHABLE MEMBRANE

The monolithic structure of the membrane guarantees excellent durability

Membrane with above-standard fire performance to ensure utmost re-

It passed the artificial ageing test involving exposure to UV light for 1000









#### COMPOSITION

MONOLITHIC

liability and safety.

hours.

**HIGH UV STABILITY** 

- (1) top layer: non-woven PP fabric
- (2) middle layer: monolithic breathable film
- (3) bottom layer: non-woven PP fabric



CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	B
TEVO160	TRASPIR EVO 160	-	1,5	50	75	5	164	807	30
TTTEVO160	TRASPIR EVO 160 TT	TT	1,5	50	75	5	164	807	30
TEVO16030	TRASPIR EVO 160 3,0 m	-	3	50	150	10	164	1615	30



### SECURE SEALING

The TT version offers quick installation and perfect sealing thanks to the integrated double tape, tested in accordance with ASTM E331 to confirm its effectiveness against water jets at 75 Pa and 300 Pa.

### HEAVY RAIN

High resistance against heavy rain during temporary exposure to weather during construction.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	160 g/m <sup>2</sup>	0.52 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,5 mm	20 mil
Water vapour transmission (Sd)	EN 1931	0,1 m	34 US Perm
Tensile strength MD/CD	EN 12311-1	280/220 N/50 mm	32/25 lbf/in
Elongation MD/CD	EN 12311-1	50/60 %	-
Resistance to nail tearing MD/CD	EN 12310-1	180/200 N	40/45 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness at 100°C	EN 1297/EN 1928	class W1	
- tensile strength MD/CD	EN 1297/EN 12311-1	260/200 N/50 mm	30/23 lbf/in
- elongation	EN 1297/EN 12311-1	40/50 %	-
Reaction to fire	EN 13501-1	class B-s1,d2	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/100 °C	-40/212 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	1000h (8 months)	-
Thermal conductivity (λ)	-	0,4 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 370 kg/m <sup>3</sup>	approx. 0.21 oz/in <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 160	approx. 0,5 MNs/g
Joint strength	EN 12317-2	> 200 N/50 mm	> 23 lbf/in
VOC	-	not relevant	-
Water column	ISO 811	> 500 cm	> 197 in
Driving rain test	TU Berlin	passed	-

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 8 weeks. According to DTU 31.2 P1-2 (France) 1000h of UV ageing equates to a maximum exposure period of 3 months during the construction phase.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)	ASTM E96/ E96M CAN2-51.32-M77	12.3 US Perm 702 ng/(s·m <sup>2</sup> ·Pa)
Resistance to water penetration at 300 Pa on wall	ASTM E331	compliant
Airtightness	ASTM E2178	compliant
Airtightness (before and after ageing)	CAN/ULC-S741	compliant
Sheathing, Membrane, Breather Type	CAN2-51.32-M77	compliant
Pliability	CAN2-51.32-M77	passed
Total heat release rate	ASTM E1354	5,4 MJ/m <sup>2</sup>
Surface burning characteristics	ASTM E84	class 1 or class A
Flame spread index (FSI)	ASTM E84	0
Smoke Developed Index (SDI)	ASTM E84	30
Evaluation of fire propagation	NFPA 285	approved

AUS and NZ Properties	standard	value
Resistance to water penetration	AS/NZ 4201.4	Water barrier
Flammability index	AS 1530.2	< 5 <sup>(2)</sup>
Duty classification	AS/NZS 4200.1	Light wall
Tensile strength MD/CD	AS 1301.448s	4,3/3,6 kN/m
Edge tearing resistance MD/CD	AS/NZS 4200.0	221/181 N
Burst strength	AS 2001.2.19/AS/NZS 4200.1	357 N
Dimensional stability	AS/NZS 4201.3	<0.5%

(2) This product is suitable for use in BAL regions 12.5 to 40 in accordance with AS 3959. Wherever non-combustible material is required by the NCC it should be noted that this product is less than 1mm thick and has a flammability index of less than 5.

### ARTIFICIAL AGEING AND WATERTIGHTNESS

As part of the MEZeroE project, the TRASPIR EVO 160 + SMART BAND system was subjected to artificial ageing caused by exposure to UV rays and heat.



TRASPIR 160 has been tested in accordance with ASTM E331 with water jets at 75 Pa and 300 Pa.

WATER JET PRESSURE	OUTCOME	NOTES AND REMARKS
300 Pa	passed	no infiltration

# **TRASPIR 200** HIGHLY BREATHABLE MEMBRANE



#### **COMPOSITION**

- (1) top layer: non-woven PP fabric
- (2) middle layer: PP breathable film
- (3) bottom layer: non-woven PP fabric





### **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	200 g/m <sup>2</sup>	0.66 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,8 mm	31 mil
Water vapour transmission (Sd)	EN 1931	0,02 m	175 US Perm
Tensile strength MD/CD	EN 12311-1	360/270 N/50 mm	41/31 lbf/in
Elongation MD/CD	EN 12311-1	45/85 %	-
Resistance to nail tearing MD/CD	EN 12310-1	230/270 N	52/61 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	330/250 N/50 mm	38/29 lbf/in
- elongation	EN 1297/EN 12311-1	35/70 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m³/(m²h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-20 °C	-4 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,04 W/(m·K)	0.02 BTU/h·ft·°F
Specific heat	-	1568 J/(kg·K)	-
Density	-	approx. 250 kg/m <sup>3</sup>	approx. 16 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 25	approx. 0.1 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 280 cm	> 110 in
Driving rain test	TU Berlin	passed	-

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 4 weeks.

Waste classification (2014/955/EU): 17 02 03.

#### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
T200	TRASPIR 200	-	1,5	50	75	5	164	807	25
TTT200	TRASPIR 200 TT	TT	1,5	50	75	5	164	807	25

# TRASPIR ALU 200

## REFLECTIVE HIGHLY BREATHABLE MEMBRANE

### **COMPOSITION**

- (1) **coating**: perforated aluminium foil
- (2) reinforcing layer: reinforcing PL grid
- (3) top layer: non-woven PP fabric
- (4) middle layer: PL breathable film
- (5) bottom layer: non-woven PP fabric





### TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	200 g/m <sup>2</sup>	0.66 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,8 mm	31 mil
Water vapour transmission (Sd)	EN 1931	0,045 m	78 US Perm
Tensile strength MD/CD	EN 12311-1	350/225 N/50 mm	40/26 lbf/in
Elongation MD/CD	EN 12311-1	5/4 %	-
Resistance to nail tearing MD/CD	EN 12310-1	200/200 N	45/45 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	330/175 N/50 mm	38/20 lbf/in
- elongation	EN 1297/EN 12311-1	4/4 %	_
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-30 °C	-22 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 250 kg/m <sup>3</sup>	approx. 16 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 60	approx. 0.22 MNs/g
VOC	-	not relevant	-
Reflectivity	EN 15976	95 %	-
Equivalent thermal resistance with 50 mm air gap		R <sub>a.0.025</sub> : 0,821 (m <sup>2</sup> K)/W	4.66 h·ft <sup>2</sup> .°F/BTU
(ε <sub>other surface</sub> 0,025-0,88)	150 6946	R <sub>g,0,88</sub> : 0,731 (m <sup>2</sup> K)/W	4.15 h·ft <sup>2</sup> ·°F/BTU
Driving rain test	TU Berlin	passed	-

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 4 weeks.

Waste classification (2014/955/EU): 17 09 04.

#### PROTECTION FROM ELECTROMAGNETIC POLLUTION

Tests conducted on TRASPIR ALU 200 demonstrated that thanks to its aluminium layer, the product acts as a shield against electromagnetic waves. The measured value exceeds 20 dB, therefore the shielding effect of the power flow density is more than 99%.

Shielding effect of flow density in %	> 99%	
dB	25 – 74 dB	ELECTROBIOLOGY

### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TTTALU200	TRASPIR ALU 200 TT	TT	1,5	50	75	5	164	807	25



# **TRASPIR EVO SEAL 200**

# BREATHABLE MONOLITHIC MEMBRANE, PERFORATION-PROOF

#### CERTIFIED

It has passed stringent tests to be classified as a screw, staple or nail puncture resistant membrane.

#### TIME AND COST SAVING

The oversized TPU film ensures that the membrane remains waterproof even in the event of a screw or nail puncture without the need for additional products. This means that installation is quick and time-saving.

#### AGEING RESISTANCE

The special functional film guarantees high durability and unaltered mechanical performance, ensuring protection and reliability.







- (1) top layer: non-woven PP fabric
- (2) middle layer: monolithic PU breathable film
- (3) bottom layer: non-woven PP fabric



### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TEVO200	TRASPIR EVO SEAL 200	-	1,5	50	75	5	164	807	25
TTTEVO200	TRASPIR EVO SEAL 200 TT	TT	1,5	50	75	5	164	807	25



## MONOLITHIC FILM TPU

The modified extra-thick TPU film compared to market standards resists drilling screws and nails and provides the superior performance of a monolithic product.

#### SAFE

Tested to fulfil the function of a temporary roof for up to 12 weeks with full exposure to weather.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	200 g/m <sup>2</sup>	0.66 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,7 mm	28 mil
Water vapour transmission (Sd)	EN 1931	0,08 m	43 US Perm
Tensile strength MD/CD	EN 12311-1	300/220 N/50 mm	34/25 lbf/in
Elongation MD/CD	EN 12311-1	50/70 %	-
Resistance to nail tearing MD/CD	EN 12310-1	260/340 N	58/76 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness at 120°C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	270/200 N/50 mm	31/23 lbf/in
- elongation	EN 1297/EN 12311-1	25/35 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/120 °C	-40/248 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	1000h (8 months)	-
Thermal conductivity (λ)	-	0,04 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 285 kg/m <sup>3</sup>	approx. 18 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 114	0.4 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	600 cm	236 in
Driving rain test	TU Berlin	passed	-
Nail puncture test	ÖNORM B3647	passed	-

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 12 weeks. According to DTU 31.2 P1-2 (France) 1000h of UV ageing equates to a maximum exposure period of 3 months during the construction phase.

Waste classification (2014/955/EU): 17 02 03.

#### NAIL SEALING

TRASPIR EVO SEAL 200 is highly effective for sealing screws and nails. The product has been tested in accordance with EAD 030218-00-0402 and its performance declared in ETA (European Technical Assessment).

COND	ITIC	NIC
CONL		JIN D



wind pressure 450 Pa

rainfall 2 l/m<sup>2</sup>

no additional materials are required to seal screws or nails if applied on a rigid support and upper batten





#### ABRASION RESISTANT AND DURABLE

The special compound guarantees high weather resistance and excellent durability in all weather conditions, also thanks to the special protective layer.

# **VENTILATED FAÇADES AND FIRE**

Fire safety issues affect all building types, as described in the introduction "Structures and fire behaviour" (p.318). In order to minimise this risk, it is essential to rely on the right components, paying attention to every detail of their design. Our ventilated façade solutions minimise risks by limiting the spread of flames in the event of an internal or external fire.

#### FIRE SPREAD PHASES IN A VENTILATED FAÇADE

In the event of a fire starting inside the building, the flames initially spread to the room where they started. Modern buildings with ventilated façades are designed to take full advantage of the chimney effect of the ventilated façade, to reap the benefits of the upward movement of air in the gap between the cladding and the insulating layer. It is precisely this phenomenon that can give rise to problems in the event of a fire.



#### CHIMNEY EFFECT

The chimney effect is a physical phenomenon, at the basis of how traditional chimneys work, taken up by the world of architecture to ensure that, by exploiting the upward movement of hot air generated inside ventilated façades, a continuous cycle is created and the housing comfort of the building is increased.



In the event of a fire, the chimney effect of the ventilated façade could cause problems as it could direct the flames into the ventilation space, pushing them towards the upper floors of the building.





Careful fire protection design includes active or passive protection devices within the design with the purpose to prevent the spread of any flames. Rothoblaas proposes the use of self-extinguishing membranes and tapes as a passive façade solution. If no preventive measures are taken, the combustion of materials could lead to flames on the upper floors. The same concepts also apply in the case of a fire developed outside the building.



# **TRASPIR FELT EVO UV 210**



# BREATHABLE MONOLITHIC MEMBRANE **RESISTANT TO UV RAYS**

### 

(1)top layer: monolithic PU breathable film

(2) reinforcing layer: PL fabric





## TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	210 g/m <sup>2</sup>	0.69 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1 mm	39 mil
Water vapour transmission (Sd)	EN 1931	0,1 m	35 US Perm
Tensile strength MD/CD	EN 12311-1	380/420 N/50 mm	43/48 lbf/in
Elongation MD/CD	EN 12311-1	40/55 %	-
Resistance to nail tearing MD/CD	EN 12310-1	220/210 N	49/47 lbf
Watertightness	EN 1928	class W1	-
After ageing <sup>(1)</sup> :			
- watertightness at 120°C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	340/380 N/50 mm	39/43 lbf/in
- elongation	EN 1297/EN 12311-1	35/50 %	-
Reaction to fire	EN 13501-1	class B-s1,d2	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-30 °C	-22 °F
Resistance to temperature	-	-40/120 °C	-40/248 °F
UV resistance without final coating <sup>(2)</sup>	EN 13859-1/2	5000h (> 12 months)	-
UV stability with joints up to 30 mm wide exposing no more than 30% of the surface $^{(3)}$	EN 13859-1/2	permanent	-
Thermal conductivity (λ)	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	1300 J/(kg·K)	-
Density	-	approx. 210 kg/m <sup>3</sup>	18 lbm/ft <sup>3</sup>
Water vapour resistance factor (μ)	-	approx. 100	approx. 0,5 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 300 cm	> 118.11024 in

<sup>(1)</sup>Ageing conditions are tested in accordance with EN 13859-2, Annex C, extended to 5000h (standard 336h).

(2) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 12 weeks. According to DTU 31.2 P1-2 (France) 5000h of ageing equates to a maximum exposure period of 6 months during the construction phase. <sup>(3)</sup>The membrane is not intended as a final waterproof layer for roofs.

#### CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TUV210	TRASPIR FELT UV 210	-	1,5	50	75	5	164	807	16
TUV21030	TRASPIR FELT UV 210 3,0 m	-	3	50	150	10	164	1615	16

# **TRASPIR EVO UV 210**

# HIGHLY BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS

#### MONOLITHIC

The polyacrylate coating and PL support make the membrane extremely stable and resistant to high temperatures, ensuring excellent durability over time.

#### B-s1,d0

Flame retardant certification, Euroclass reaction to fire B-s1, d0 based on EN 13501-1.

#### PERMANENT AND 10.000 HOUR STABILITY

Permanent resistance to UV rays with exposure with open joints up to 50 mm wide, and with up to 40% of the surface uncovered. It passed the 10.000 hour artificial ageing test.





#### 

(1) top layer: monolithic breathable polyacrylate film

(2) reinforcing layer: PL fabric

### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	B
TTTUV210	TRASPIR EVO UV 210 TT	TT	1,5	50	75	5	164	807	24



# EXCELLENT AESTHETIC PERFORMANCE

Thanks to the mass per unit area and the polyacrylate mix, the product offers high thermal and dimensional stability, preventing swelling during installation. Final appearance is guaranteed by the use of FRONT BAND UV 210, made with the same support, to finish in with the membrane.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	210 g/m <sup>2</sup>	0.69 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,3 mm	12 mil
Water vapour transmission (Sd)	EN 1931	0,04 m	87 US Perm
Tensile strength MD/CD	EN 12311-1	300/200 N/50 mm	34/23 lbf/in
Elongation MD/CD	EN 12311-1	25/25 %	-
Resistance to nail tearing MD/CD	EN 12310-1	120/120 N	27/27 lbf
Watertightness	EN 1928	class W1	-
After artificial ageing <sup>(1)</sup>			
- watertightness at 150 °C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	290/190 N/50 mm	33/22 lbf/in
- elongation	EN 1297/EN 12311-1	20/20 %	-
Reaction to fire	EN 13501-1	class B-s1,d0	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/150 °C	-4/302 °F
UV resistance without final coating <sup>(2)</sup>	EN 13859-1/2	10.000h (> 12 months)	-
UV stability with joints up to 50 mm wide exposing no more than 40% of the surface <sup>(3)</sup>	EN 13859-1/2	permanent	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 700 kg/m <sup>3</sup>	approx. 44 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 130	approx. 0.2 MNs/g
VOC	-	not relevant	-

<sup>(1)</sup>Ageing conditions are tested in accordance with EN 13859-2, Annex C, extended to 10.000h (standard 336h).

(2) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 24 weeks. According to DTU 31.4 (France) 10.000h of UV ageing equates to a maximum exposure period of 14 months during the construction phase. (3) The membrane is not intended as a final waterproof layer for roofs.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)	ASTM E96/ E96M	41.7 US Perm 2380 ng/(s·m <sup>2</sup> ·Pa)
Surface burning characteristics	ASTM E84	class 1 or class A
Flame spread index (FSI)	ASTM E84	5
Smoke developed index (SDI)	ASTM E84	300
AUS and NZ Properties	standard	value

Flammability index AS 1530.2  $< 5^{(2)}$ <sup>(2)</sup>This product is suitable for use in BAL regions 12.5 to 40 in accordance with AS 3959. Wherever non-combustible material is required by the NCC it should be noted

that this product is less than 1mm thick and has a flammability index of less than 5.

### REAL EXPOSURE AND DISASSEMBLY

perfectly intact.

During the extension of the Rothoblaas headquarters, the main façade was disassembled into modules consisting of CLT panels, insulation, TRASPIR EVO UV 210 and the substructure of the cladding. To evaluate the façade's functionality and potential for reuse, the watertightness and mechanical performance of TRASPIR EVO UV 210 were tested. The tests demonstrated that after 5 years, the membrane was still





# RECOMMENDATIONS FOR INSTALLATION: TRASPIR UV

APPLICATION ON WALL - MEMBRANE WITH DOUBLE TAPE





APPLICATION ON WALL - MEMBRANE WITHOUT DOUBLE TAPE







# RECOMMENDATIONS FOR INSTALLATION: TRASPIR UV



APPLICATION ON WINDOW - EXTERNAL SIDE

















- 2 MARLIN, CUTTER
- 6 FACADE BAND, FRONT BAND UV
- 7 PLASTER BAND OUT

# TRASPIR EVO 220

# MONOLITHIC BREATHABLE MEMBRANE



DURABILITY

ABRASIO



#### MONOLITHIC

The monolithic structure of the membrane guarantees excellent durability over time, thanks to the special polymers used.

#### SUPER TAPE

Greater tape width to guarantee excellent resistance to heavy rain, approved by ÖNORM B 4119.

#### ANTISLIP

Rough surface for excellent sliding resistance thanks to the double polypropylene coating.



#### **COMPOSITION**

(1) top layer: non-woven PP fabric

(2) middle layer: monolithic breathable film

(**3**) bottom layer: non-woven PP fabric

### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TEVO220	TRASPIR EVO 220	-	1,5	50	75	5	164	807	20
TTTEVO220	TRASPIR EVO 220 TT	TT	1,5	50	75	5	164	807	20



### RELIABLE

The wider width integrated double tape offers the highest possible protection against heavy rain.

### SAFETY

During construction, the monolithic film of the membrane guarantees excellent durability, even when exposed to UV rays.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	220 g/m <sup>2</sup>	0.72 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1 mm	39 mil
Water vapour transmission (Sd)	EN 1931	0,2 m	17 US Perm
Tensile strength MD/CD	EN 12311-1	385/315 N/50 mm	44/36 lbf/in
Elongation MD/CD	EN 12311-1	65/80 %	-
Resistance to nail tearing MD/CD	EN 12310-1	345/425 N	78/96 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness at 100°C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	365/270 N/50 mm	42/31 lbf/in
- elongation	EN 1297/EN 12311-1	47/51 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/100 °C	-40/212 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	1000h (8 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 220 kg/m <sup>3</sup>	approx. 14 lbm/ft <sup>3</sup>
Water vapour resistance factor $(\mu)$	-	approx. 200	approx. 1 MNs/g
Joint strength	EN 12317-2	> 250 N/50 mm	> 28.5 lbf/in
VOC	-	not relevant	-
Water column	ISO 811	> 500 cm	> 197 in
Driving rain test	TU Berlin	passed	-

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 8 weeks. According to DTU 31.2 P1-2 (France) 1000h of UV ageing equates to a maximum exposure period of 3 months during the construction phase.

Waste classification (2014/955/EU): 17 02 03.

AUS Properties	standard	value
Flammability index	AS 1530.2	<5(2)

(2)This product is suitable for use in BAL regions 12.5 to 40 in accordance with AS 3959. Wherever non-combustible material is required by the NCC it should be noted that this product is less than 1 mm thick and has a flammability index of less than 5.



#### HIGH MASS PER UNIT AREA

The performance and mass per unit area of this monolithic membrane allow it to meet even the most severe national standards – classified as one of the highest performing membranes.

# **TRASPIR DOUBLE NET 270**

# HIGHLY BREATHABLE MEMBRANE

#### DOUBLE REINFORCEMENT GRIDS

Thanks to its composition, the membrane is not affected by mechanical stress or by staples and nails.

#### ANTISLIP

Rough surface for excellent sliding resistance thanks to the double polypropylene coating.

#### SAFETY

The high mass per unit offers good water resistance even during construction.

#### COMPOSITION

- (1) top layer: non-woven PP fabric
- (2) reinforcing layer: reinforcing PP grid
- (3) middle layer: PP breathable film
- (4) reinforcing layer: reinforcing PP grid
- (5) bottom layer: non-woven PP fabric



RESISTANCE



### CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
T270	TRASPIR DOUBLE NET 270	-	1,5	50	75	5	164	807	16
TTT270	TRASPIR DOUBLE NET 270 TT	TT	1,5	50	75	5	164	807	16



## QUICK SEALING

The TT version offers fast installation and professional sealing thanks to the integrated double tape.

### FLEXIBILITY

Although the membrane is very thick and resistant, its composition ensures great flexibility in processing without the risk of material wear.



Properties	standard	value	USC units
Mass per unit area	EN 1849-2	270 g/m <sup>2</sup>	0.88 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1 mm	39 mil
Water vapour transmission (Sd)	EN 1931	0,035 m	100 US Perm
Tensile strength MD/CD	EN 12311-1	650/800 N/50 mm	74/91 lbf/in
Elongation MD/CD	EN 12311-1	40/60 %	-
Resistance to nail tearing MD/CD	EN 12310-1	750/550 N	169/124 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	620/770 N/50 mm	71/88 lbf/in
- elongation	EN 1297/EN 12311-1	35/55 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-20 °C	-4 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity (λ)	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 260 kg/m <sup>3</sup>	approx. 16 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 35	approx. 0.175 MNs/g
Joint strength	EN 12317-2	> 550 N/50 mm	> 63 lbf/in
VOC	-	not relevant	-
Water column	ISO 811	> 500 cm	> 197 in

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 4 weeks.
 Waste classification (2014/955/EU): 17 02 03.

### RELATED PRODUCTS



SPEEDY BAND page 76



BLACK BAND page 144



ROLLER page 393





#### MECHANICAL STRENGTH

The double reinforcing grid ensures maximum safety even during construction and in the event of high mechanical stresses.

# TRASPIR EVO 300

# HIGHLY BREATHABLE MONOLITHIC MEMBRANE





#### MONOLITHIC

The monolithic structure of the membrane guarantees excellent durability over time, thanks to the special polymers used.

#### EXCEPTIONAL UV STABILITY

Extremely resistant to weathering, it passed the 10.000 hour artificial ageing test.

#### TEMPERATURE RESISTANCE AND DURABILITY

The polyacrylate coating and PL support make the product extremely stable and resistant to temperatures up to 150°C.



# 

(1) top layer: monolithic breathable polyacrylate film

(2) middle layer: PL fabric



### CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	B
TEVO300	TRASPIR EVO 300	-	1,5	50	75	5	164	807	24
TTTEVO300	TRASPIR EVO 300 TT	TT	1,5	50	75	5	164	807	24



## RELIABLE

Waterproofing and mechanical strength guaranteed even near areas permanently exposed to the sun.

### SELF-EXTINGUISHING B-s1,d0

The special modified acrylic compound coupled with the polyester fabric makes the product self-extinguishing with fire reaction class B-s1,d0.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	300 g/m <sup>2</sup>	0.98 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,5 mm	20 mil
Water vapour transmission (Sd)	EN 1931	0,04 m	87 US Perm
Tensile strength MD/CD	EN 12311-1	380/250 N/50 mm	43/29 lbf/in
Elongation MD/CD	EN 12311-1	25/25 %	-
Resistance to nail tearing MD/CD	EN 12310-1	160/190 N	36/43 lbf
Watertightness	EN 1928	class W1	-
After artificial ageing <sup>(1)</sup>			
- watertightness at 150°C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	370/240 N/50 mm	42/27 lbf/in
- elongation	EN 1297/EN 12311-1	23/23 %	-
Reaction to fire	EN 13501-1	class B-s1,d0	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/150 °C	-40/302 °F
UV resistance without final coating <sup>(2)</sup>	EN 13859-1/2	10.000h (> 12 months)	-
UV stability with joints up to 50 mm wide exposing no more than 40% of the surface <sup>(3)</sup>	EN 13859-1/2	permanent	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 600 kg/m <sup>3</sup>	approx. 37 lbm/ft <sup>3</sup>
Water vapour resistance factor $(\mu)$	-	approx. 80	approx. 0.2 MNs/g
Joint strength	EN 12317-2	> 280 N/50 mm	> 32 lbf/in
VOC	-	not relevant	-
Water column	ISO 811	> 500 cm	> 197 in
Driving rain test	TU Berlin	passed	-

<sup>(1)</sup>Ageing conditions are tested in accordance with EN 13859-2, Annex C, extended to 10.000h (standard 336h).

(2) Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 24 weeks. According to DTU 31.4 (France) 10.000h of UV ageing equates to a maximum exposure period of 14 months during the construction phase.

<sup>(3)</sup>The membrane is not intended as a final waterproof layer for roofs.

Waste classification (2014/955/EU): 17 02 03.

USA and CA Properties	standard	value
Water vapour transmission (dry cup)	ASTM E96/ E96M	41.7 US Perm
		2380 ng/(s·m²·Pa)

TRASPIR EVO 300 belongs to the same product family as TRASPIR EVO UV 210, making the results applicable to this product also.

### REAL EXPOSURE AND DISASSEMBLY

During the extension of the Rothoblaas headquarters, the main façade was disassembled into modules consisting of CLT panels, insulation, TRASPIR EVO UV 210 (TRASPIR EVO 300) and the substructure of the cladding.

To evaluate the façade's functionality and potential for reuse, the watertightness and mechanical performance of TRASPIR EVO UV 210 (TRASPIR EVO 300) were tested. The tests demonstrated that after 5 years, the membrane was still perfectly intact.

TRASPIR EVO 300 belongs to the same product family as TRASPIR EVO UV 210. It is the heavier, higher-performance version, making the results applicable to this product also.



# **TRASPIR DOUBLE EVO 340**

# MONOLITHIC AND MICROPOROUS **BREATHABLE MEMBRANE**

#### MONOLITHIC

The monolithic structure of the membrane guarantees excellent durability over time, thanks to the special polymers used.

#### LOW PITCHES

Thanks to its mass per unit area, it can also be effectively installed on roofs with pitches down to 5°.

#### DOUBLE PROTECTION

Double functional membrane for double watertightness and weather protection.

#### COMPOSITION

- (1) top layer: non-woven PP fabric
- (2) middle layer: monolithic breathable film
- (3) middle layer: non-woven PP fabric
- (4) middle layer: PP breathable film
- (5) bottom layer: non-woven PP fabric





#### CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TEVO340	TRASPIR DOUBLE EVO 340	-	1,5	25	37,5	5	82	404	20
TTTEVO340	TRASPIR DOUBLE EVO 340 TT	TT	1,5	25	37,5	5	82	404	20



## RELIABLE

High mass per unit area guarantees excellent protection even during construction.

#### SAFETY

The double protection provided by the two functional films ensures superior watertightness.





Properties	standard	value	USC units
Mass per unit area	EN 1849-2	340 g/m <sup>2</sup>	1.11 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1,2 mm	47 mil
Water vapour transmission (Sd)	EN 1931	0,19 m	18 US Perm
Tensile strength MD/CD	EN 12311-1	605/455 N/50 mm	69/52 lbf/in
Elongation MD/CD	EN 12311-1	65/80 %	-
Resistance to nail tearing MD/CD	EN 12310-1	415/500 N	93/112 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness at 100°C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	550/400 N/50 mm	63/46 lbf/in
- elongation	EN 1297/EN 12311-1	37/51 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/100 °C	-40/212 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	1000h (8 months)	-
Thermal conductivity $(\lambda)$	-	0,04 W/(m·K)	0.02 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 284 kg/m <sup>3</sup>	approx. 10 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 160	approx. 0.95 MNs/g
Joint strength	EN 12317-2	> 250 N/50 mm	> 28.5 lbf/in
VOC	-	not relevant	-
Water column	ISO 811	> 600 cm	> 236 in

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 8 weeks. According to DTU 31.2 P1-2 (France) 1000h of UV ageing equates to a maximum exposure period of 3 months during the construction phase.

Waste classification (2014/955/EU): 17 02 03.

#### RELATED PRODUCTS







FLEXI BAND page 78







#### **HIGH PERFORMANCE**

The high mass per unit area and the double functional layer guarantee high protection and abrasion resistance. The monolithic membrane meets the most strict requirements of the various national regulations, classifying it as a very high performance product.

# RECOMMENDATIONS FOR INSTALLATION: TRASPIR



**APPLICATION ON ROOF - EXTERNAL SIDE** 















TRASPIR EVO 135, TRASPIR 150, TRASPIR NET 160, TRASPIR EVO 160, TRASPIR 200, TRASPIR ALU 200, TRASPIR FELT UV 210, TRASPIR EVO 220, 1 TRASPIR DOUBLE NET 270, TRASPIR EVO 300, TRASPIR DOUBLE EVO 340, TRASPIR ALU FIRE A2 430

2 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES

5b ROTHOBLAAS TAPE ROLLER

DOUBLE BAND, SUPRA BAND, BUTYL BAND 5c OUTSIDE GLUE

# RECOMMENDATIONS FOR INSTALLATION: ROOF

TRANSVERSAL HEAD OVERLAPPING SEALING



4 ROTHOBLAAS TAPE

#### SEALING FASTENING SYSTEMS



1 GEMINI



1 NAIL PLASTER, NAIL BAND, LIZARD

# **TRASPIR WELD EVO 360**

## WELDABLE MONOLITHIC BREATHABLE MEMBRANE

#### MONOLITHIC

The monolithic structure of the membrane guarantees excellent durability over time, thanks to the special polymers used.

#### DOUBLE PROTECTION

Excellent watertightness; the double external PU layer ensures the highest safety levels and exceptional durability.

#### LOW PITCHES

(1)

(2)

**(3**)

Thanks to its mass per unit area, the membrane can also be effectively installed on roofs with pitches down to 5°.





<u>``</u>

MONOLITHIC

MONOLITHIC

CE

### CODES AND DIMENSIONS

middle layer: PL fabric

top layer: monolithic PU breathable film

bottom layer: monolithic PU coated breathable film

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TEVO360	TRASPIR WELD EVO 360	-	1,5	25	37,5	5	82	404	24
TEVO36030	TRASPIR WELD EVO 360 3,0 m	-	3	25	75	10	82	807	24
WELDSTRIPE300	WELDING STRIPE	-	0,30	20	6	1	66	66	5



## COMPLETE SYSTEM

Waterproofing with TRASPIR WELD EVO 360 means creating a safe, effective and complete system with sleeves and sealing of the battens by sealing.

#### FUNCTIONAL FILM SEALING

The membrane allows the two functional TPU films to be sealed together on the outer edges, either with hot air or chemically, thus preventing humidity absorption.

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	360 g/m <sup>2</sup>	1.18 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1 mm	39 mil
Water vapour transmission (Sd)	EN 1931	0,2 m	17US Perm
Tensile strength MD/CD	EN 12311-1	420/490 N/50 mm	48/56 lbf/in
Elongation MD/CD	EN 12311-1	50/65 %	-
Resistance to nail tearing MD/CD	EN 12310-1	310/280 N	70/63 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness at 120 °C	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	400/470 N/50 mm	46/54 lbf/in
- elongation	EN 1297/EN 12311-1	50/65 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-30 °C	-22 °F
Resistance to temperature	-	-40/120 °C	-40/248 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	1000h (8 months)	-
Thermal conductivity $(\lambda)$	-	0,4 W/(m·K)	0.23 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 360 kg/m <sup>3</sup>	approx. 22 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 200	approx. 1 MNs/g
Joint strength	EN 12317-2	> 490 N/50 mm	> 56 lbf/in
Water column	ISO 811	> 300 cm	> 118 in
Driving rain test	TU Berlin	passed	-
WELD LIQUID application temperature	-	10/25 °C	50/77 °F
WELD LIQUID storage temperature <sup>(2)</sup>	-	5/25 °C	41/77 °C
Yield of 1 litre of WELD LIQUID	-	approx. 150-180 m <sup>2</sup>	-

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 12 weeks.
(2)Store the product in a dry, covered location away from heat, open flames or other sources of ignition. Check the date of manufacturing on the packaging.

Waste classification (2014/955/EU): 17 02 03.

#### ~

#### REAL EXPOSURE

The double PU layer of TRASPIR WELD EVO 360 guarantees exceptional durability, preserving the watertightness of the membrane even during prolonged exposure to weathering during construction.

Thanks to the PU's high resistance to ageing, the bottom layer, protected against direct exposure, remains perfectly intact even under the most extreme conditions.

After 12 months of unprotected exposure during construction in a Central European climate\*





\*The test demonstrates the high durability of TRASPIR WELD EVO 360 even during prolonged exposure. Regardless, Rothoblaas recommends limiting exposure to weathering during construction to a maximum of 12 weeks.

#### RELATED PRODUCTS



WELDING BOTTLE BRUSH WELDBOTBRUSH content: 0,5 L pcs/pckg 1



WELDING BRUSH WELDBRUSH sizes: 4 cm pcs/pckg 1



WELDING LIQUID WELDLIQUID content: 1,0 L pcs/pckg 1







MANICA FLEX - TPU MANFTPU300 MANFTPU430

#### RECOMMENDATIONS FOR INSTALLATION

SEALING OF MEMBRANE







1 WELDBOTHBRUSH, WELDBRUSH, WELDLIQUID

SOLUTION A: SEALING BATTEN WITH WELD STRIPE



¢]

5 WELDSTRIPE300

5

WELDBOTHBRUSH, WELDBRUSH, WELDLIQUID, HOT GUN 6

#### SOLUTION B: SEALING BATTEN WITH NAIL POINT TAPE





7 NAIL PLASTER
- 5b ROTHOBLAAS TAPE

BREATHABLE | TRASPIR WELD EVO 360 | 289

- 2 WELDBOTHBRUSH, WELDBRUSH, WELDLIQUID
- **3** ROTHOBLAAS TAPE
- 5a WELDBOTHBRUSH, WELDBRUSH, WELDLIQUID, HOT GUN











- CHIMNEY SEALING
- MANFTPU300, MANFTPU430 WELDBOTHBRUSH, WELDBRUSH, WELDLIQUID 2





80

m

SLEEVE SEALING

# **TRASPIR ALU FIRE A2 430**

# REFLECTIVE HIGHLY BREATHABLE MEMBRANE

### NON-COMBUSTIBLE A2-s1,d0

Membrane tested in accordance with EN 13501-1 and classified as a non-combustible material.

### REFLECTIVE

Thanks to its ability to reflect up to 95% of the heat, it improves the thermal performance of the construction panels.

### HIGH MASS PER UNIT

With a value of  $430 \text{ g/m}^2$ , it is an extremely robust, thermally stable and stress-resistant product during installation.



CE



# COMPOSITION

(1) top layer: perforated aluminium foil

(2) middle layer: PE functional film

(3) bottom layer: glass fibre fabric

# CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TALUFIRE430	TRASPIR AUL FIRE A2 430	Т	1,2	35	42	4	164	646	20



# **UV STABILITY**

The top layer in aluminium ensures high UV stability, even when exposed during construction or if there are cracks or open joints in claddings.

### SAFETY

As it is a non-combustible membrane, it can also be applied in combination with photovoltaic systems or at electrical voltage points.

# **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	430 g/m <sup>2</sup>	1.41 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,43 mm	17 mil
Water vapour transmission (Sd)	EN 1931	0,08 m	43 US Perm
Tensile strength MD/CD	EN 12311-1	3000/3200 N/50 mm	343/365 lbf/in
Elongation MD/CD	EN 12311-1	6/5 %	-
Resistance to nail tearing MD/CD	EN 12310-1	580/450 N	130/101 lbf
Watertightness	EN 1928	class W1	
After artificial ageing <sup>(1)</sup>			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	2800/3000 N/50 mm	343/365 lbf/in
- elongation	EN 1297/EN 12311-1	6/5 %	-
Reaction to fire	EN 13501-1	class A2-s1,d0	-
Resistance to penetration of air	EN 12114	< 0,05 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.003 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/90 °C	-40/194 °F
Equivalent thermal resistance with 50 mm air gap		R <sub>g,0,025</sub> : 0,821 (m <sup>2</sup> K)/W	4.66 h·ft <sup>2.</sup> °F/BTU
(ε <sub>other surface</sub> 0,025-0,88)	130 0940	R <sub>g,0,88</sub> : 0,731 (m <sup>2</sup> K)/W	4.15 h∙ft <sup>2</sup> .°F/BTU
UV resistance without final coating <sup>(2)</sup>	EN 13859-1/2	5000h (> 12 months)	-
UV stability with joints up to 50 mm wide exposing no more than 50% of the surface <sup>(3)</sup>	EN 13859-1/2	permanent	-
Thermal conductivity (λ)	-	0,0007 W/(m·K)	0 BTU/h·ft·°F
Specific heat	-	800 J/(kg·K)	-
Density	-	1000 kg/m <sup>3</sup>	approx. 62 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	-	approx. 185	approx. 0.4 MNs/g
VOC	-	not relevant	-
Reflectivity	EN 15976	95 %	-

<sup>(1)</sup>Ageing conditions are tested in accordance with EN 13859-2, Annex C, extended to 5000h (standard 336h).
<sup>(2)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 10 weeks. According to DTU 31.2 P1-2 (France) 5000h of UV ageing equates to a maximum exposure period of 6 months during the construction phase <sup>(3)</sup>The membrane is not intended as a final waterproof layer for roofs.

Twaste classification (2014/955/EU): 17 09 04.

# FIRE BEHAVIOUR IN FAÇADES

TRASPIR ALU FIRE 430 was tested inside a ventilated façade made of timber panels according to the protocol "Assessment of fire performance of façades using large fire exposure".

PERFORMANCE:	
vertical fire spread	60 minutes
burning parts	60 minutes





# MECHANICAL STRENGTH

The combination of aluminium and a glass fibre reinforcing layer ensures high mechanical performance.

# **TRASPIR METAL**

# 3D MATS FOR METAL ROOFS

The 3D mats guarantee reduction of airborne and heavy rain noises. Values

The breathable membrane with 3D grid includes a fifth layer that blocks

The 3D mat has high mechanical strength and is also appropriate for

**CERTIFIED NOISE REDUCTION** 

impurities and improves ventilation.

HIGH DENSITY 3D GRID

aluminium sheet metal.

tested and certified.

**PROTECTIVE FELT** 

# Usalità al Plurale

### AUS AJXZS 42001 UB Typ 1 AJXZ 42001 UD Typ 1 AJXZ 42001 UD Typ 1 AJXZ 42001 UD Typ 1 UD Typ 1



# CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	А	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
1 TTTMET610	TRASPIR 3D COAT TT	TT	1,35	33	44,55	4.43	108.27	479.54	4
2 NET350	NET 350	-	1,25	50	62,5	4.11	164	672.75	4



# SAFE VENTILATION

The TRASPIR 3D COAT breathable membrane comes with a 3D grid and protective felt on the surface that prevents the entry of impurities and improves ventilation.

# VERSATILE

Also ideal in combination with BYTUM or TRASPIR to create a micro-ventilation layer in both wall and roof installations.

# RECOMMENDATIONS FOR INSTALLATION

TRASPIR 3D COAT



1 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES





CHIMNEY DETAIL WITH TRASPIR 3D COAT











1 MARLIN, CUTTER

- 2 TRASPIR NET 160, TRASPIR EVO 160, TRASPIR 200, TRASPIR EVO SEAL 200, TRASPIR EVO 220, TRASPIR ADHESIVE 260, TRASPIR DOUBLE NET 260, TRASPIR EVO 300, TRASPIR DOUBLE EVO 340
- 3 ROLLER
- 4 EASY BAND, FLEXI BAND, FLEXI BAND UV, FACADE BAND, PLASTER BAND

# **TRASPIR 3D COAT TT**

# **COMPOSITION**

(1) protective layer: non-woven PP fabric

- (2) middle layer: 3-dimensional PP mat
- (3) protective layer: non-woven PP fabric
- (4) middle layer: PP breathable film
- (5) bottom layer: non-woven PP fabric



# **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	600 g/m <sup>2</sup>	1.97 oz/ft <sup>2</sup>
Thickness	EN 1849-2	8 mm	315 mil
Water vapour transmission (Sd)	EN 1931	0,025 m	140 US Perm
Tensile strength MD/CD	EN 12311-1	300/225 N/50 mm	34/25 lbf/in
Elongation MD/CD	EN 12311-1	> 35/50 %	-
Resistance to nail tearing MD/CD	EN 12310-1	175/150 N	39/34 lbf
Watertightness	EN 1928	class W1	-
After ageing:			
- watertightness	EN 1297/EN 1928	class W1	-
- tensile strength MD/CD	EN 1297/EN 12311-1	285/185 N/50 mm	32/21 lbf/in
- elongation	EN 1297/EN 12311-1	35/30 %	-
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Flexibility at low temperatures	EN 1109	-40 °C	-40 °F
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Thermal conductivity $(\lambda)$	-	0,3 W/(m·K)	0.17 BTU/h·ft·°F
Specific heat	-	1800 J/(kg·K)	-
Density	-	approx. 75 kg/m <sup>3</sup>	approx. 4.7 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 3.3	approx. 0.13 MNs/g
VOC	-	not relevant	-
Water column	ISO 811	> 250 cm	> 98.4252 in
Void ratio	-	95 %	-
Variation of the sound reduction index $\Delta R_w$	ISO 10140-2/ISO 717-1	1 dB	-
Variation in overall A-weighted sound intensity level from heavy rain noise $\Delta L_{iA}$	ISO 140-18	approx. 4 dB	-
Impact sound pressure level attenuation $\Delta L_w$ (SILTNET10) <sup>(2)</sup>	ASTM E492	15 dB	-

(1) Laboratory ageing tests are not able to reproduce the unpredictability of the product's degradation or the stresses to which it will be subjected during its service life. To ensure its integrity, it is recommended to limit the time of exposure to the weather during the construction phase to a maximum of 2 weeks. (2) Laboratory measurement on 175 mm CLT floor structure with 38 mm self-levelling screed.

# 3D NET

# COMPOSITION

(1) **3D net**: 3-dimensional PP mat



# **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-2	350 g/m <sup>2</sup>	1.15 oz/ft <sup>2</sup>
Thickness	EN 1849-2	7.5 mm	295 mil
Tensile strength MD/CD	EN 12311-1	1,3/0,5 N/50 mm	0.15/0.06 lbf/in
Elongation MD/CD	EN 12311-1	95/65 %	-
Reaction to fire	EN 13501-1	class F	-
Resistance to temperature	-	-40/80 °C	-40/176 °F
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
Density	-	approx. 45 kg/m <sup>3</sup>	approx. 2.8 lbm/ft <sup>3</sup>
VOC	-	not relevant	-
Void ratio	-	95 %	-
Variation of the sound reduction index $\Delta R_w$	ISO 10140-2/ISO 717-1	1 dB	-
Variation in overall A-weighted sound intensity level from heavy rain noise $\Delta L_{iA}$	ISO 140-18	4 dB	-

<sup>(1)</sup>Laboratory ageing tests are not able to reproduce the unpredictability of the product's degradation or the stresses to which it will be subjected during its service life. To ensure its integrity, it is recommended to limit the time of exposure to the weather during the construction phase to a maximum of 4 weeks.



# DURABILITY

When installed on a continuous support, it promotes micro-ventilation of metal roofs, preventing corrosion.

# LABORATORY MEASUREMENTS



# AIRBORNE ACOUSTIC INSULATION AND NOISE GENERATED BY HEAVY RAIN

The test sample consists of a  $5,60 \times 3,65$  m timber roof positioned between an emitting room (see PHOTO 1) and a receiving room, used to emit and record the sound stress during the tests.

Shown below are the layers tested in the two versions: the first with the TRASPIR METAL and the second with the sheet metal directly on the plank.

- 1 0,6 mm thick zinc plated steel metal sheet
- 2 8 mm thick TRASPIR METAL membrane
- **3** 20 mm thick pine beads
- 4 air chamber with 60 mm thick timber battens
- 5 Rothoblaas breathable membrane
- 6 22 mm thick 200 kg/m<sup>3</sup> wood fibre
- 7 180 mm thick 110 kg/m<sup>3</sup> wood fibre
- B Rothoblaas vapour control layer
- 9 20 mm thick pine beads
- 10 120 x 200 mm thick laminated pine beam



reduction of noise from heavy rain **by up to 4 dB** 

# TESTS PERFORMED

### The following measuring tests have been performed on both layers, with and without TRASPIR METAL:

- 1. Airborne acoustic insulation according to EN ISO 10140-2:2010 and EN ISO 717-1:2013 on roof. The result is a soundproofing power index of  $R_W$  for the layer. Accordingly, the higher the value the better the acoustic insulation.
- 2. Noise generated by heavy rain according to EN ISO 140-18:2007: in this test it is obtained a value indicating the sound pressure level  $L_{IA}$  recorded in the receiving room during the pounding of water, simulated by a tank placed over the sample.



PHOTO 1: Photo of sample, emitting room side



NOTE: The full test report is available from the Rothoblaas technical department.

# WHAT ABOUT FLOORS? SILENT FLOOR NET 3D IS FOR YOU

# Tested and uniquely designed, SILENT FLOOR NET 3D is the insulation solution featuring a 3D grid to reduce impact noise.

The product range includes three-dimensional mats with high mechanical strength and excellent protective capacity, effectively reducing impact noise by acting as a resilient layer.

SILENT FLOOR NET 3D is also available in a 20 mm version.

Scan the QR code and download our "Soundproofing solutions" catalogue.



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Solutions for Building Technology

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www.rothoblaas.com

# BITUMINOUS

# BITUMINOUS

BYTUM 400 BITUMINOUS UNDERLAY CONTROL LAYER
BYTUM 750 BITUMINOUS UNDERLAY CONTROL LAYER
BYTUM 1100 BITUMINOUS UNDERLAY CONTROL LAYER
BYTUM 1500 BITUMINOUS UNDERLAY CONTROL LAYER
BYTUM 2000 BITUMINOUS UNDERLAY CONTROL LAYER
BYTUM BASE 2500 SELF-ADHESIVE BITUMINOUS MEMBRANE
BYTUM SLATE 3500 SELF-ADHESIVE SLATED BITUMINOUS MEMBRANE
SHINGLE BITUMINOUS TILE

# **BYTUM 400** BITUMINOUS UNDERLAY CONTROL LAYER

# COMPOSITION

- (1) top layer: non-woven PP fabric
- (2) compound: bituminous mix
- (3) reinforcing layer: PL fabric
- (4) compound: bituminous mix
- (5) bottom layer: non-woven PP fabric





# TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-1	400 g/m <sup>2</sup>	1.31 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,6 mm	24 mil
Water vapour transmission (Sd)	EN 1931	22 m	0.16 US Perm
Tensile strength MD/CD	EN 12311-1	500/400 N/50 mm	57/46 lbf/in
Elongation MD/CD	EN 12311-1	45/50 %	-
Resistance to nail tearing MD/CD	EN 12310-1	200/200 N	45/45 lbf
Watertightness (2 kPa)	EN 1928	compliant	-
Resistance to temperature	-	-45/100 °C	-49/212 °F
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Thermal conductivity $(\lambda)$	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	120 J/(kg·K)	-
Density	-	approx. 600 kg/m <sup>3</sup>	approx. 37 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 36000	approx. 110 MNs/g
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
After ageing:			
- watertightness (2 kPa)	EN 1297/EN 1928	compliant	-
- tensile strength MD/CD	EN 1297/EN 12311-1	450/350 N/50 mm	51/40 lbf/in
- elongation	EN 1297/EN 12311-1	35/40 %	-
Flexibility at low temperatures	EN 1109	-45 °C	-49 °F

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks. The rolls must be transported and stored in a vertical position. Store the product in a dry, covered location until application, as it is sensitive to temperature fluctuations.

Waste classification (2014/955/EU): 17 03 02.

# CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	A	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYT400	BYTUM 400	-	1	50	50	3.3	164	538	20

# **BYTUM 750** BITUMINOUS UNDERLAY CONTROL LAYER

# COMPOSITION

- (1) top layer: non-woven PP fabric
- (2) compound: bituminous mix
- (**3**) reinforcing layer: PL fabric
- (4) compound: bituminous mix
- (5) bottom layer: non-woven PP fabric





# **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-1	750 g/m <sup>2</sup>	2.46 oz/ft <sup>2</sup>
Thickness	EN 1849-2	0,8 mm	31 mil
Water vapour transmission (Sd)	EN 1931	38 m	0.09 US Perm
Tensile strength MD/CD	EN 12311-1	500/400 N/50 mm	57/46 lbf/in
Elongation MD/CD	EN 12311-1	45/50 %	-
Resistance to nail tearing MD/CD	EN 12310-1	200/200 N	45/45 lbf
Watertightness (2 kPa)	EN 1928	compliant	-
Resistance to temperature	-	-45/100 °C	-49/212 °F
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Thermal conductivity $(\lambda)$	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	120 J/(kg·K)	-
Density	-	approx. 935 kg/m <sup>3</sup>	approx. 58 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 47500	approx. 190 MNs/g
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	-
After ageing:			
- watertightness (2 kPa)	EN 1297/EN 1928	compliant	-
- tensile strength MD/CD	EN 1297/EN 12311-1	450/350 N/50 mm	51/40 lbf/in
- elongation	EN 1297/EN 12311-1	35/40 %	-
Flexibility at low temperatures	EN 1109	-45 °C	-49 °F

<sup>(1)</sup>Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks. The rolls must be transported and stored in a vertical position. Store the product in a dry, covered location until application, as it is sensitive to temperature fluctuations.

Waste classification (2014/955/EU): 17 03 02.

# CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYTTT750	BYTUM 750 TT	TT	1	40	40	3.3	131	431	20

# **BYTUM 1100** BITUMINOUS UNDERLAY CONTROL LAYER

# COMPOSITION

- (1) top layer: non-woven PP fabric
- (2) compound: bituminous mix
- (3) reinforcing layer: PL fabric
- (4) compound: bituminous mix
- (5) bottom layer: non-woven PP fabric





# TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-1	1100 g/m <sup>2</sup>	3.6 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1,1 mm	43 mil
Water vapour transmission (Sd)	EN 1931	55 m	0.06 US Perm
Tensile strength MD/CD	EN 12311-1	650/500 N/50 mm	74/57 lbf/in
Elongation MD/CD	EN 12311-1	45/50 %	-
Resistance to nail tearing MD/CD	EN 12310-1	230/230 N	52/52 lbf
Watertightness (2 kPa)	EN 1928	compliant	-
Resistance to temperature	-	-45/100 °C	-49/212 °F
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	<0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	<0.001 cfm/ft <sup>2</sup> at 50Pa
Thermal conductivity $(\lambda)$	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	120 J/(kg·K)	-
Density	-	approx. 1000 kg/m <sup>3</sup>	approx. 62 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	-	approx. 50000	approx. 275 MNs/g
UV stability <sup>(1)</sup>	EN 13859-1/2	336h (3 months)	
After ageing:			
- watertightness (2 kPa)	EN 1297/EN 1928	compliant	-
- tensile strength MD/CD	EN 1297/EN 12311-1	600/450 N/50 mm	69/51 lbf/in
- elongation	EN 1297/EN 12311-1	35/40 %	-
Flexibility at low temperatures	EN 1109	-45 °C	-49 °F

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks. The rolls must be transported and stored in a vertical position. Store the product in a dry, covered location until application, as it is sensitive to temperature fluctuations.

Waste classification (2014/955/EU): 17 03 02.

# CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYT1100	BYTUM 1100	-	1	25	25	3.3	82	270	24
BYTTT1100(*)	BYTUM 1100 TT	TT	1	25	25	3.3	82	270	24

(\*)Product available on request.

# BYTUM 1500 BITUMINOUS UNDERLAY CONTROL LAYER

# **COMPOSITION**

- (1) top layer: non-woven PP fabric
- (2) compound: bituminous mix
- (**3**) reinforcing layer: PL fabric
- (4) compound: bituminous mix
- (5) bottom layer: non-woven PP fabric





# **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-1	1500 g/m <sup>2</sup>	4.92 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1,3 mm	51 mil
Water vapour transmission (Sd)	EN 1931	120 m	0.029 US Perm
Tensile strength MD/CD	EN 12311-1	500/400 N/50 mm	57/46 lbf/in
Elongation MD/CD	EN 12311-1	40/40 %	-
Resistance to nail tearing MD/CD	EN 12310-1	150/200 N	34/45 lbf
Watertightness (60 kPa)	EN 1928	compliant	-
Resistance to temperature	-	-20/100 °C	-4/212 °F
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	<0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Thermal conductivity ( $\lambda$ )	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	175 J/(kg·K)	-
Density	-	approx. 1300 kg/m <sup>3</sup>	approx. 81 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	EN 13707	approx. 20000	approx. 600 MNs/g
UV stability <sup>(1)</sup>	EN 13859-1/2	336 h (3 months)	-
After ageing:			
-watertightness (60 kPa)	EN 1296/EN 1928	compliant	-
- tensile strength MD/CD	EN 1297/EN 12311-1	400/300 N/50 mm	46/34 lbf/in
- elongation	EN 1297/EN 12311-1	35/35 %	-
Flexibility at low temperatures	EN 1109	-20 °C	-4 °F
Storage temperature <sup>(2)</sup>	-	+5/+ 40 °C	+41/104 °F

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks.
(2)The rolls must be transported and stored in a vertical position. Store the product in a dry, covered location until application, as it is sensitive to temperature fluctuations.

Waste classification (2014/955/EU): 17 03 02.

# CODES AND DIMENSIONS

CODE	description	tape	н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYT1500	BYTUM 1500	-	1	25	25	3.3	82	270	30
BYTTT1500	BYTUM 1500 TT	TT	1	25	25	3.3	82	270	30

# BYTUM 2000 BITUMINOUS UNDERLAY CONTROL LAYER

# **COMPOSITION**

- (1) top layer: non-woven PP fabric
- (2) compound: bituminous mix
- (**3**) reinforcing layer: PL fabric
- (4) compound: bituminous mix
- (5) bottom layer: non-woven PP fabric





# TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area	EN 1849-1	2000 g/m <sup>2</sup>	6.55 oz/ft <sup>2</sup>
Thickness	EN 1849-2	1,8 mm	71 mil
Water vapour transmission (Sd)	EN 1931	120 m	0.029 US Perm
Tensile strength MD/CD	EN 12311-1	500/400 N/50 mm	57/46 lbf/in
Elongation MD/CD	EN 12311-1	40/40 %	-
Resistance to nail tearing MD/CD	EN 12310-1	150/200 N	34/45 lbf
Watertightness (60 kPa)	EN 1928	compliant	-
Resistance to temperature	-	-20/100 °C	-4/212 °F
Reaction to fire	EN 13501-1	class E	-
Resistance to penetration of air	EN 12114	< 0,02 m <sup>3</sup> /(m <sup>2</sup> h50Pa)	< 0.001 cfm/ft <sup>2</sup> at 50Pa
Thermal conductivity $(\lambda)$	-	0,2 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	175 J/(kg·K)	-
Density	-	approx. 1300 kg/m <sup>3</sup>	approx. 81 lbm/ft <sup>3</sup>
Water vapour resistance factor ( $\mu$ )	EN 13707	approx. 20000	approx. 600 MNs/g
UV stability <sup>(1)</sup>	EN 13859-1/2	336 h (3 months)	-
After ageing:			
-watertightness (60 kPa)	EN 1296/EN 1928	compliant	-
- tensile strength MD/CD	EN 1297/EN 12311-1	400/300 N/50 mm	46/34 lbf/in
- elongation	EN 1297/EN 12311-1	35/35 %	
Flexibility at low temperatures	EN 1109	-20 °C	-4 °F
Storage temperature <sup>(2)</sup>	-	+5/+ 40 °C	+41/104 °F

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks.
(2)The rolls must be transported and stored in a vertical position. Store the product in a dry, covered location until application, as it is sensitive to temperature fluctuations.

Waste classification (2014/955/EU): 17 03 02.

# CODES AND DIMENSIONS

CODE	description	tape	Н	L	А	Н	L	Α	
			[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYT2000	BYTUM 2000	-	1	15	15	3.3	50	161	33

# **RECOMMENDATIONS FOR INSTALLATION: BYTUM**

APPLICATION ON ROOF - EXTERNAL SIDE













**1** BYTUM400, BYT750, BYT110, BYT1500, BYT2000

2 HAMMER STAPLER 47, HAMMER STAPLER 22, HAND STAPLER, STAPLES

5 ROTHOBLAAS TAPE

6 ROLLER

# BYTUM BASE 2500

# SELF-ADHESIVE BITUMINOUS MEMBRANE



BASED

### FLAT ROOF

Ideal for flat roofs as a final visible layer in combination with BYTUM SLATE 3500.

### WORKABILITY

Flexibility and workability are guaranteed even at low temperatures thanks to the polymer-modified bituminous compound.

### SELF-ADHESIVE AND SELF-SEALING

The adhesive compound and polyester surface finish allow the membrane to be self-sealed quickly and conveniently.





# 

- (1) top layer: PL film
- (2) compound: elastoplastic polymeric distilled bitumen
- (3) reinforcing layer: PL stabilised with glass fibre
- (4) compound: elastoplastic polymeric distilled bitumen
- (5) bottom layer: distilled bitumen modified with self-adhesive polymer
- (6) release liner: removable plastic film

# CODES AND DIMENSIONS

CODE	description	liner	Н	L	А	Н	L	А	
		[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYTBASE2500	BYTUM BASE 2500	500/500	1	10	10	3.3	33	108	29



# WITHOUT FLAME

Self-adhesive. Thanks to the modified self-adhesive distilled bitumen compound, the product can be installed without the use of open flames or heat.

# EASY INSTALLATION

Pre-cut removable monosilicone films and a precise alignment of the sheaths make the job safe and visually appealing.

# **TECHNICAL DATA**

Properties	standard	value	USC units
Mass per unit area	EN 1849-1	approx. 2650 g/m <sup>2</sup>	approx. 8.68 oz/ft <sup>2</sup>
Thickness	EN 1849-1	2 mm	79 mil
Water vapour transmission (Sd)	EN 1931	approx. 200 m	approx. 0.017 US Perm
Tensile strength MD/CD	EN 12311-1	400/300 N/50 mm	46/34 lbf/in
Elongation MD/CD	EN 12311-1	35/35 %	-
Resistance to nail tearing MD/CD	EN 12310-1	120/120 N	27/27 lbf
Adhesion strength on BYTUM BASE 2500 at 180°	EN 12316-1	50 N	11.24 lbf
Adhesion strength on steel	ASTM D 1000	50 N/50 mm	6 lbf/in
Watertightness (60 kPa)	EN 1928	compliant	-
Resistance to temperature	-	-20/+90 °C	-4/+ 194 °F
Flexibility at low temperatures	EN 1109	-20 °C	-4 °F
Hot sliding	EN 1110	+90 °C	+194 °F
Application temperature (product, support and ambient)	-	10/30 °C	50/86 °F
Reaction to fire	EN 13501-1	class E	-
Thermal conductivity (λ)	-	0,17 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	170 J/(kg·K)	-
Density	-	approx. 1250 kg/m <sup>3</sup>	approx. 78 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	EN 13707	approx. 20000	approx. 200 MNs/g
Joint strength	EN 12317-2	300/200 N/50 mm	34/23 lbf/in
UV stability <sup>(1)</sup>	EN 13859-1/2	336 h (3 months)	-
After ageing:			
-watertightness (60 kPa)	EN 1296/EN 1928	compliant	
- tensile strength MD/CD	EN 1297/EN 12311-1	300/200 N/50 mm	34/23 lbf/in
- elongation	EN 1297/EN 12311-1	30/30 %	-
Storage temperature <sup>(2)</sup>	-	+10/+ 40 °C	+50/104 °F

(1)Laboratory ageing test data cannot reproduce unforeseeable causes of the product's degradation, or consider the stresses to which it will be subjected during its service life. To ensure its integrity, as a precautionary measure, exposure to weathering during construction should be limited to a maximum of 3 weeks.
(2)The rolls must be transported and stored in a vertical position. Store the product in a dry, covered location until application, as it is sensitive to temperature fluctuations. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

Waste classification (2014/955/EU): 08 04 10.

# REAL APPLICATION

BYTUM BASE 2500 is extremely waterproof thanks to its PL top film and double bituminous layer, which provides protection even when exposed to weathering during construction. Its fully adhesive surface ensures secure and durable sealing, preventing water penetration behind the membrane in case of accidental breakage.

After exposure during construction with heavy rain for 7 days in South America\*



\*The test serves to demonstrate the quality of BYTUM BASE 2500 even in heavy rain. However, for waterproofing flat roofs it must be used in conjunction with BYTUM SLATE 3500.



# RELATED PRODUCTS



BYTUM LIQUID page 50



BYTUM SPRAY page 48



GROUND BAND page 32



BLACK BAND page 144

# BYTUM SLATE 3500

# SELF-ADHESIVE SLATED BITUMINOUS MEMBRANE

### EASY INSTALLATION

The slate finish makes BYTUM SLATE 3500 usable on slopes up to 5° as an under-tile and compatible with mortar and foam.

### WIDE RANGE

Available in 4 colours to meet different application areas and aesthetic requirements.

### FLEXIBILITY

Flexibility and workability are guaranteed even at low temperatures thanks to the polymer-modified bituminous compound.





### CODES AND DIMENSIONS

CODE	description	liner	colour	Н	L	А	Н	L	А	
		[mm]		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BYTSWHI3500	BYTUM SLATE 3500 WHITE	500/500	white	1	10	10	3.29	33	107.64	27
BYTSGRE3500	BYTUM SLATE 3500 GREEN	500/500	green	1	10	10	3.29	33	107.64	27
BYTSRED3500	BYTUM SLATE 3500 RED	500/500	red	1	10	10	3.29	33	107.64	27
BYTSGRA3500	BYTUM SLATE 3500 GRAY	500/500	grey	1	10	10	3.29	33	107.64	27



# SELF-ADHESIVE AND SELF-SEALING

The lateral adhesive strip guarantees waterproofing even at the points where membranes overlap.

# FLAT ROOF

Ideal for creating a flat roof as a final visible layer in combination with BYTUM BASE 2500.



# COMPOSITION

- (1) top layer: slate chips
- (2) compound: elastoplastic polymeric distilled bitumen
- (3) reinforcing layer: PL stabilised with glass fibre
- (4) compound: elastoplastic polymeric distilled bitumen
- (5) bottom layer: distilled bitumen modified with self-adhesive polymer
- (**6**) release liner: removable plastic film

# **TECHNICAL DATA**



Properties	standard	value	USC units
Mass per unit area	EN 1849-1	3500 g/m <sup>2</sup>	11.47 oz/ft <sup>2</sup>
Thickness	EN 1849-1	ca. 2.8 mm	approx. 110 mil
Water vapour transmission (Sd)	EN 1931	280 m	0.012 US Perm
Tensile strength MD/CD	EN 12311-1	400/300 N/50 mm	46/34 lbf/in
Elongation MD/CD	EN 12311-1	35/35 %	-
Resistance to nail tearing MD/CD	EN 12310-1	120/120 N	27/27 lbf
Adhesion strength on selvedge at 180°	EN 12316-1	50 N	11.240451 lbf
Adhesion strength on steel	ASTM D 1000	50 N/50 mm	6 lbf/in
Watertightness (60 kPa)	EN 1928	compliant	-
Resistance to temperature	-	-20/+90 °C	-4/+ 194 °F
Flexibility at low temperatures	EN 1109	-20 °C	-4 °F
Hot sliding	EN 1110	+90 °C	+194 °F
Application temperature (product, support and ambient)	-	10 °C	50 °F
Reaction to fire	EN 13501-1	class E	-
Thermal conductivity $(\lambda)$	-	0,17 W/(m·K)	0.12 BTU/h·ft·°F
Specific heat	-	170 J/(kg·K)	
Density	-	approx. 1250 kg/m <sup>3</sup>	approx. 78 lbm/ft <sup>3</sup>
Water vapour resistance factor (µ)	EN 13707	approx. 20000	approx. 200 MNs/g
Joint strength	EN 12317-2	300/200 N/50 mm	34/23 lbf/in
UV stability	EN 13859-1/2	permanent	-
After ageing:			
-watertightness (60 kPa)	EN 1296/EN 1928	compliant	-
- tensile strength MD/CD	EN 1297/EN 12311-1	300/200 N/50 mm	34/23 lbf/in
- elongation	EN 1297/EN 12311-1	30/30 %	-
Storage temperature <sup>(1)</sup>	-	+10/+ 40 °C	+50/104 °F

<sup>(1)</sup>The rolls must be transported and stored in a vertical position. Store the product in a dry, covered location until application, as it is sensitive to temperature fluctuations. For best results, apply it during the cooler hours in summer and warmer hours in winter, using a hot air gun if possible.

Waste classification (2014/955/EU): 08 04 10.



# PERMANENT UV STABILITY

The exposed slated top layer provides long-lasting weather resistance by protecting the bitumen waterproof layer.

# **RECOMMENDATIONS FOR INSTALLATION**

BYTUM SLATE 3500









BYTUM BASE 2500 | BYTUM SLATE 3500









# **RECOMMENDATIONS FOR INSTALLATION**

INTERNAL CORNER



- 2 HUIGUN
- 3 MARLIN, CUTTER
- 4 ROLLER

### EXTERNAL CORNER









# SHINGLE **BITUMINOUS TILE**

PERMANENT UV STABILITY

sealing during installation.

Final waterproof covering layer CE marked according to ETA. Weatherproof and acoustically insulating against heavy rain.

Unlimited UV resistance thanks to the basalt grit top layer.

Easy to install thanks to pre-installed thermo-adhesive points that ensure

**CE MARKING** 

SELF-SEALING











# CODES AND DIMENSIONS

CODE		В	L	В	L	colour	A/co.	co./b	A/b	
		[mm]	[mm]	[in]	[in]		[m <sup>2</sup> ]		[m <sup>2</sup> ]	
SHIREDR	R	777	336	30.6	13.23	red	2,0	39	66,0	18
SHIBROR	R	777	336	30.6	13.23	brown	2,0	39	66,0	18
SHIGRER	R	777	336	30.6	13.23	green	2,0	39	66,0	18
SHIBLAR	R	777	336	30.6	13.23	black	2,0	39	66,0	18
SHIREDB	В	808	336	31.82	13.23	red	2,0	39	66,0	17
SHIBROB	В	808	336	31.82	13.23	brown	2,0	39	66,0	17
SHIGREB	В	808	336	31.82	13.23	green	2,0	39	66,0	17
SHIBLAB	В	808	336	31.82	13.23	black	2,0	39	66,0	17

В tile width

L tile height

A/co. area of tiles per package

area of tiles per pallet A/b

co./b packages per pallet R

rectangular

biber

В



# TRANSPORTATION

Easy to transport thanks to the small size (80 cm x 34 cm) and the low weight of the package (approx. 20 kg).

### **BYTUM 400**

Ideal in combination with a bituminous under-tile shield (BYTUM 400) for effective waterproofing even on low roof slopes.

# TECHNICAL DATA

Properties	standard	value	USC units
Mass per unit area (RECTANGULAR)	ETA-17/0510	9,4 kg/m <sup>2</sup>	30.80 oz/ft <sup>2</sup>
Mass per unit area (BIBER)	ETA-17/0510	8,8 kg/m <sup>2</sup>	28.84 oz/ft <sup>2</sup>
Thickness	-	3 mm	118 mil
Tensile strength MD/CD	EN 544	> 600/400 N/50 mm	> 69/46 lbf/in
Elongation MD/CD	EN 544	3,0/3,0 %	
Resistance to nail tearing MD/CD	EN 544	> 100 N	> 22 lbf
Watertightness	ETA-17/0510	compliant	-
Resistance to temperature		-20/80 °C	-4/176 °F
Reaction to fire	EN 13501-1	class E	
External fire performance	EN 13501-5	BROOF class (t1)	
After ageing:			
- tensile strength MD/CD	EN 544	> 600/400 N/50 mm	69/46 lbf/in
- resistance to nail tearing MD/CD	EN 544	> 100 N	22 lbf
- hot slipping	EN 544	< 2 mm	< 0.08 in
- grit adhesion	EN 544	< 2,5 g	< 0.09 oz
Water absorption	EN 544	< 2 %	
UV stability	-	permanent	-

It is recommended to store the product at room temperature until application, as it is sensitive to temperature changes. We recommend applying it during the cooler hours in summer and the warmer hours in winter, possibly with the help of a hot air gun.

# **GEOMETRY**





# RELATED PRODUCTS

### SHINGLE STICK

CODES	content	р	cs
00057008	310 ml	1	2
Yield of 1 cartridge equal to about 3 linear	r metres for metal sheet work.		
Properties	value	USC units	
	. 0/. 10.00	70/ 40405	
Application temperature	+0/+ 40 °C	+32/+104 °F	
Resistance to temperature	+0/+ 40 °C -20/+ 80 °C	+32/+104 °F -4/+176 °F	



# PERGOLAS AND PORCHES

Ideal solution for roofing small structures such as canopies, pergolas or porches.

# ■ RECOMMENDATIONS FOR INSTALLATION

















# RECOMMENDATIONS FOR INSTALLATION

















# PASSIVE FIRE PROTECTION

# PASSIVE FIRE PROTECTION

# SERVICE PENETRATIONS

MASS INTUMESCENT BRICK FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS
<b>UNICOLLUM</b> ROLL OF FIRESTOP COLLAR FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS
FIRE STRIPE GRAPHITE PRO FIREPROOF TAPE FOR INSULATED METAL PIPES AND ELECTRICAL CABLES
<b>COLLUM</b> FIRESTOP COLLAR FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS
SEAL W FIREPROOF ACRYLIC SEALANT
SACCUS FIREPROOF BAG FOR CABLE TRAY PENETRATIONS
PANNUS FIREPROOF COVER FOR METAL PIPE PENETRATIONS336
<b>GRAPHIT FOAM</b> TWO-COMPONENT FIREPROOF POLYURETHANE FOAM SUPPLEMENTED WITH GRAPHITE
PANEL PANEL WITH FIREPROOF COATING

# LINEAR JOINTS

PROTECT
SELF-ADHESIVE BUTYL BAND, CAN BE PLASTERED
<b>CONSTRUCTION SEALING</b> <i>COMPRESSIBLE SEALING GASKET FOR REGULAR JOINTS</i> 343
SPEEDY BAND UNIVERSAL SINGLE-SIDED TAPE WITHOUT RELEASE LINER
FLEXI BAND UNIVERSAL SINGLE-SIDED HIGH-ADHESION TAPE
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<b>EXPAND BAND</b> SELF-EXPANDING SEALING TAPE

FIRE FOAM HIGH FIRE-RESISTANT SEALING POLYURETHANE FOAM ......346

FIRE STRIPE GRAPHITE         FLEXIBLE INTUMESCENT GASKET
SUPRA BAND UNIVERSAL DOUBLE-SIDED BUTYL TAPE WITH HIGH ADHESION
MANICA PLASTER ADHESIVE SEALING SLEEVE THAT CAN BE PLASTERED
DEFENCE ADHESIVE SELF-ADHESIVE PROTECTIVE MEMBRANE
XYLOFON HIGH PERFORMANCE RESILIENT

# WALLS, ROOFS AND FLOORS

MULTI BAND UV SPECIAL UV-RESISTANT HIGH-ADHESION TAPE
FRONT BAND UV 210 UNIVERSAL SINGLE-SIDED TAPE, HIGHLY RESISTANT TO UV RAYS
BARRIER ALU NET SD1500 REFLECTIVE VAPOUR BARRIER SD > 1500 M
BARRIER ALU FIRE A2 SD2500 REFLECTIVE AIR VAPOUR BARRIER FIRE REACTION CLASS A2-S1,D0
BARRIER ALU NET ADHESIVE 300 SELF-ADHESIVE REFLECTIVE VAPOUR BARRIER SD > 1500 M
TRASPIR EVO UV 115BREATHABLE MONOLITHIC MEMBRANERESISTANT TO UV RAYS
TRASPIR EVO 160         MONOLITHIC BREATHABLE MEMBRANE
TRASPIR FELT EVO UV 210BREATHABLE MONOLITHIC MEMBRANERESISTANT TO UV RAYS
<b>TRASPIR EVO UV 210</b> HIGHLY BREATHABLE MONOLITHICMEMBRANE RESISTANT TO UV RAYS
TRASPIR EVO UV ADHESIVE         SELF-ADHESIVE BREATHABLE MONOLITHIC         MEMBRANE RESISTANT TO UV RAYS
TRASPIR EVO 300         HIGHLY BREATHABLE MONOLITHIC MEMBRANE
<b>TRASPIR ALU FIRE A2 430</b> REFLECTIVE HIGHLY BREATHABLE MEMBRANE

# STRUCTURES AND FIRE BEHAVIOUR

All building typologies have to consider fire safety issues, depending on the regulations in force and the intended use. This should be done in order to minimise the causes of fire, ensure the stability of the structure and limit the spread of flames both inwards and towards neighbouring buildings, guaranteeing the safety of the occupants and access for rescue teams.

# WHAT IS FIRE PREVENTION

Fire prevention is the discipline that studies and puts into practice all measures aimed at preventing, reporting and reducing the probability of fire, or in any case limiting its negative effects on people and the environment. There are two types of fire prevention measures: active and passive protection.

### PREVENTIVE MEASURES

Fire prevention measures range from the professional installation of electrical systems to the ventilation of rooms with vapours and gases, and extend to common sense measures such as respect for order and cleanliness. It is also important to keep the level of training and information of emergency teams high at all times.



# THE FIRE DESIGN STEPS



# FIRE RESISTANCE

Fire resistance indicates the ability of a building element to maintain structural stability during a fire condition for a given period of time, while retaining the ability to compartmentalise smoke and hot gases generated by combustion. The main purpose of fire resistance is to ensure the load-bearing capacity of the structure under fire conditions. The characteristics that must be maintained during the action of fire are indicated by three letters:



The fire resistance rating is expressed in minutes, during which resistance under the action of flames must be ensured:15, 20, 30, 45, 60, 90, 120, 180, 240 and 360 minutes. The indication of minutes follows the abbreviation REI (e.g. REI120). In the case of non-load-bearing structures, where the load-bearing capacity is not significant, the R factor can be omitted and the minutes can be expressed as EI (e.g. EI90).

# **REACTION TO FIRE**

The fire reaction rating is an indicator that assesses the propensity of a material to contribute or otherwise to fire growth. Different material behaviours correspond to different classes, ranging from non-combustible products to extremely flammable materials.

<ul> <li>Markov</li> <li>Markov</li></ul>	class A1	non-combustible products
0 0 0	classes A2, B, C, D, E	combustible products, as their participation in the fire increases
<b>À</b>	class F	indicates materials with Non-Determined Performance (NDP) or that do not reach Class E
ê.	s1, s2, s3	are the three values indicating the optical density of smoke
٠.	d0, d1, d2	are the three values indicating the danger of dripping

European classification according to EN 13501-1



Discover the different flame reactions of our products! Watch the video on our YouTube channel

SUBSCRIBE





# SERVICE PENETRATIONS

# SERVICE PENETRATIONS

# MASS

INTUMESCENT BRICK FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS
<b>UNICOLLUM</b> ROLL OF FIRESTOP COLLAR FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS
FIRE STRIPE GRAPHITE PRO FIREPROOF TAPE FOR INSULATED METAL PIPES AND ELECTRICAL CABLES
<b>COLLUM</b> FIRESTOP COLLAR FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS
SEAL W FIREPROOF ACRYLIC SEALANT
SACCUS FIREPROOF BAG FOR CABLE TRAY PENETRATIONS
PANNUS FIREPROOF COVER FOR METAL PIPE PENETRATIONS336
<b>GRAPHIT FOAM</b> TWO-COMPONENT FIREPROOF POLYURETHANE FOAM SUPPLEMENTED WITH GRAPHITE338
PANEL PANEL WITH FIREPROOF COATING

# FIRE: HOW TO PROTECT TECHNICAL PENETRATIONS?



# FIRE PROTECTION: WHAT IS IT?

It involves implementing **preventive measures** to lower the probability of a fire starting and possibly minimise damage in the event of a fire.

Fire protection safeguards people, property and the environment through safety measures and protective actions.

# **RISK ASSESSMENT, IS IT NECESSARY?**

Not only is it necessary, it is essential for containing potential damage. A thorough **fire risk** assessment requires the implementation of both **fire prevention** and **fire protection** measures. The former reduce the likelihood of fire outbreaks. The latter minimise the extent of damage, should a fire occur (damage magnitude).

# WHAT IS THE DIFFERENCE BETWEEN PASSIVE AND ACTIVE PROTECTION?

**Passive protection** involves measures designed to contain and limit the spread of fire without the need for human intervention or activation of automatic systems.

Vice versa, **active protection** involves direct human intervention or the activation of a system (e.g. extinguisher, sprinkler or other).

# PASSIVE PROTECTION, IMPORTANT OR NOT?

Absolutely, because it addresses two key factors: time and space.

**Passive protection** is integrated into the building's structure and ensures safety for a specified period without the need for external intervention.

**Fire resistance** is the core characteristic of passive protection. One of the rules is to create fire compartments to separate risk areas.

# SEPARATE TO PROTECT?

Poor separation and inadequate compartmentalisation can facilitate the spread of fire, increasing the risk to occupants and complicating fire-fighting efforts.

Compartmentalisation involves the use of **partitions** resistant to the effects of fire (temperature, smoke and heat), supplemented by the sealing of technical penetrations.

The seals used on technical installations, which change state during a fire, are part of passive protection as they operate independently of human intervention or system activation.

# WHAT ABOUT PENETRATIONS?

Walls and floors often contain pipes and cables that can exacerbate the spread of fire.

### Our specific products are needed to:

- seal holes of various sizes
- provide insulating barriers
- counteract the spread of flames
- facilitate construction due to their practicality and functionality



# **PASSIVE FIRE PROTECTION** PENETRATIONS FOR TECHNICAL INSTALLATIONS



wall and floor application



floor application only



wall application only





		PIPELINES						CAB	LES	
		combustible	insulated combustible	insulated multilayer	bundled multilayer	insulated steel	non-insulated steel	insulated copper	inside combustible pipes	cable trays
	MASS	-	-	-					-	
<b>P</b>	UNICOLLUM				_		_	-		-
	COLLUM				_		_	-		-
11111	SACCUS	-	_	_	_	-	-	_	_	
ſ	PANNUS	-	_	-	_	_		-	_	-
$\checkmark$	PANEL									
and a second	SEAL W									
	FIRE STRIPE GRAPHITE PRO	-	_		_		-			-
	GRAPHIT FOAM	-	_		_	_	-			

# MASS

# INTUMESCENT BRICK FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS



### INTUMESCENT

Made of polyurethane foam, MASS expands on contact with fire and forms an insulating barrier that counteracts the spread of flames.

### ADAPTABLE

Easily compressible, it is ideal for use in cable, pipe and mixed penetrations in various-shaped crossings.

Easily shapeable with a simple cutter, it is ideal for construction sites where the design specifications are unknown.

### REMOVABLE

In case of maintenance or changes to the installation, MASS can be easily removed and repositioned.



(1) intumescent polyurethane foam ("Firefill")

# CODES AND DIMENSIONS

CODE	dimensions	dimensions	
	[mm]	[in]	
MASS150	150 x 150 x 50	5 7/8 x 5 7/8 x 2	12

### TECHNICAL DATA

Properties	value	USC units
Weight	250 g	0,55 lb
Density	240 kg/m <sup>3</sup>	0,14 oz/in <sup>3</sup>
Thermal conductivity $\lambda$	0,062 W/m·K	0,04 BTU/(h·ft·°F)
Fire resistance rating on CLT floor <sup>(1)</sup>	E160	-
Fire resistance rating on CLT wall <sup>(1)</sup>	EI120	-

<sup>(1)</sup>EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests. The product remains stable when stored under normal conditions.

Waste classification (2014/955/EU): 07 02 13.



# FIELDS OF APPLICATION

- cables in cable tray
- cables in corrugated tubes, possibly bundled
- combustible pipes
- multilayer pipes, possibly bundled
- insulated and non-insulated metal pipes
- insulated copper pipes
- mixed penetrations (including fire dampers)




### FIELDS OF APPLICATION

PLUMBING				
	bundled multilayer	insulated steel	non-insulated steel	insulated copper
non-flush wall pipes		5		
non-flush floor pipes				-
	ELECTR	ICAL and TELECOMMUNIC	CATIONS	
	in-wall	wiring	in-floo	r wiring
cable tray				

### RECOMMENDATIONS FOR INSTALLATION



- 1 Insert MASS inside the crossing to be sealed. Make sure the thickness matches the specifications in the technical data sheets
- 2 If necessary, cut the product using a cutter to properly seal the gaps
- **3** Use the material until the crossing is completely filled
- 4 Seal any gaps with GRAPHIT FOAM sealant

### RELATED PRODUCTS



FIRE STRIPE GRAPHITE PRO page 336



UNICOLLUM page 326



CUTTER page 394

# UNICOLLUM

# ROLL OF FIRESTOP COLLAR FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS

### MODULAR

A universal solution, UNICOLLUM can be cut directly on-site and adapted to accommodate large diameters.

It is certified for sealing mechanical and electrical penetrations in walls and ceilings.

### VERSATILE PROTECTION

Featuring a stainless steel outer structure and a highly expansive intumescent strip, it provides protection for both wet environments and large elements.



### COMPOSITION



highly expansive "Firefill" intumescent material

(**2**) AISI 430 stainless steel (1.4016)

### CODES AND DIMENSIONS

CODE	dimensions	dimensions	
	[mm]	[in]	
UNICOLLUM50	metal strip 3000 x 50 intumescent sheath 8600 x 50 x 4	metal strip 9' 10 1/8" x 2 intumescent sheath 28' 2 5/8'' x 2 x 3/16	1

Possible diameters: from 30 to 315 mm, see INSTALLATION table on page 328.

### TECHNICAL DATA

Properties	value	USC units
Free expansion	> 20:1	-
Activation temperature	180 °C	356 °F
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	-

(1)EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests. The product remains stable when stored under normal conditions.

Twaste classification (2014/955/EU): 19 10 01 (foil) | 07 02 13 (sheath).



### FIELDS OF APPLICATION

- bundles of electrical cables, possibly in corrugated tubes
- combustible pipes, possibly in series
- multilayer pipes, possibly bundled
- insulated metal pipes
- mixed penetrations

### FIELDS OF APPLICATION

PLUMBING				
	combustible	insulated combustible	insulated multilayer	steel insulated
flush wall pipes				
non-flush wall pipes		-	-	-
flush floor pipes				
non-flush floor pipes		-	-	-

### ELECTRICAL and TELECOMMUNICATIONS

	in-wall wiring	in-floor wiring
flush combustible pipes		

### **FASTENERS**

SCREW FOR WOOD

HBS COUNTERSUNK

)e

**DWS** DRYWALL SCREW

() and the second

RELATED PRODUCTS



Screw sizes must be determined based on the specific installation, see technical manual.

For more information, go to www.rothoblaas.com.

COLLUM page 330



PANEL page 340

### RECOMMENDATIONS FOR INSTALLATION



- 1 Measure the diameter of the pipe to be protected and cut the foil and sheath as indicated in the "INSTALLATION" table
- 2 Wrap the sheath around the pipe to be protected and secure with normal adhesive tape (FLEXI BAND)
- 3 Manually fold the metal foil, adapting it to the diameter of the pipe, and position the anchoring tabs outwards at 90°
- 4 Position the metal foil around the sheath with the ends overlapping by at least 30 mm
- 5 Then secure it with the supplied self-drilling screws (at least two per collar)
- 6 Fix the newly created collar with self-tapping screws (HBS or DWS) or metal expansion plugs depending on the support

### INSTALLATION

diameter	F <sub>oil</sub>	$L_{sheath}$	turns	possible collars	fastening points
[mm]	[mm]	[mm]	[no.]	[no.]	[no.]
30	200	240	2	15	4
40	230	310	2	13	4
50	260	380	2	11	4
63	300	460	2	10	4
80	350	560	2	8	4
90	380	620	2	7	4
100	410	680	2	7	4
110	440	750	2	6	4
125	515	1310	3	5	5
140	560	1450	3	5	5
160	620	1640	3	4	5
200(*)	795	3500	5	2	5
250(*)	955	4300	5	2	5
315(*)	1200	6430	6	1	5

(\*)For combustible pipes with diameter 200, 250, 315 mm, 2 collars must be applied, as per figure 1 and 2. Attach the foil of the second collar to the first, placing the eyelets as shown in the figure and fasten with self-drilling screws.



# FIRE STRIPE GRAPHITE PRO

# FIREPROOF TAPE FOR INSULATED METAL PIPES AND ELECTRICAL CABLES



- Thin profile (4 mm)
- Ideal for applications inside the rigid support
- It is not necessary to remove the pipe insulation cup on which FIRE STRIPE GRAPHITE PRO is applied

### 





### CODES AND DIMENSIONS

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[in]	[ft]	
FIRESTRIPEP50	50	4	10	2	157,5	32 9 3/4	1

### TECHNICAL DATA

Properties	value	USC units
Free expansion	> 20:1	-
Activation temperature	180 °C	356 °F
Generated pressure	10 bar	145 psi
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	-

(1)EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests.

### RECOMMENDATIONS FOR INSTALLATION

- 1 Wrap the sheath around the penetration to be protected, checking the application data sheets to determine the exact number of required turns.
- 2 Fix the sheath with the adhesive tape (FLEXI BAND) at the penetration
- **3** Seal the perimeter with the sheath, making sure it is inserted completely flush with the wall, using a double panel glued and sealed with acrylic sealant



### FIELDS OF APPLICATION

- bundles of electrical cables in corrugated tubes
- bundled multilayer pipes
- insulated metal pipes

# **COLLUM**

# FIRESTOP COLLAR FOR MECHANICAL AND ELECTRICAL TECHNICAL PENETRATIONS

### FAST

It can be applied to penetrations of specific types and diameters. Quick and easy installation.

### VERSATILE PROTECTION

The outer stainless steel structure allows its application in wet environments, and the highly expansive intumescent strip ensures protection for large-sized elements.





CODES AND DIMENSIONS

(1) AISI 430 stainless steel (1.4016)

(2) highly expansive "Firefill" intumescent material

CODE	internal diameter	height	fastening points	internal diameter	height	
	[mm]	[mm]	[no.]	[mm]	[mm]	
COLLUM30	30	50	4	1 3/16	2	60
COLLUM63	63	50	4	2 1/2	2	20
COLLUM80	80	50	4	3 1/8	2	16
COLLUM90	90	50	4	3 1/2	2	16
COLLUM100	100	50	4	4	2	8
COLLUM110	110	50	4	4 3/8	2	8
COLLUM125	125	70	4	4 15/16	2 3/4	4
COLLUM140	140	70	4	5 1/2	2 3/4	3
COLLUM160	160	70	4	6 1/4	2 3/4	3
COLLUM315	315	200	4	12 3/8	8	1



### VERSATILE

Ideal for defined diameters. Easy to apply in new and existing installations.

**REUSEABLE** Easily removed and reused.

### **TECHNICAL DATA**

Properties	value	USC units
Free expansion	> 20:1	-
Activation temperature	180 °C	356 °F
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	-

<sup>(1)</sup>EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests. The product remains stable when stored under normal conditions.

Waste classification (2014/955/EU): 19 10 01 (foil) | 07 02 13 (sheath).

### FIELDS OF APPLICATION

PLUMBING				
	combustible	insulated combustible	insulated multilayer	steel insulated
flush wall pipes				
non-flush wall pipes		-	-	-
flush floor pipes				
non-flush floor pipes		-	-	-

### ELECTRICAL and TELECOMMUNICATIONS

	in-wall wiring	in-floor wiring
flush combustible pipes		

ALC: N

### RECOMMENDATIONS FOR INSTALLATION





- 1 Open the collar and apply it around the pipe
- 2 Close the collar using the metal tab
- 3 Install the collar and check that it adheres to the wall or floor
- 4 Fasten the collar with HBS or DWS screws (not supplied)

For more details on installation, see UNICOLLUM on page 326.

### **FASTENERS**

HBS

### DWS

COUNTERSUNK SCREW FOR WOOD





Screw sizes must be determined based on the specific installation, see technical manual. For more information, go to **www.rothoblaas.com**.

### RELATED PRODUCTS



UNICOLLUM page 326



PANEL page 340

# **SEALW** FIREPROOF ACRYLIC SEALANT

- Used as a glue between PANEL product sections
- Seals small joints, formwork holes and small cable penetrations
- It has good permanent elasticity





### CODES AND DIMENSIONS

CODE	content	content	
	[ml]	[US fl oz]	
SEALW	300	10,14	20

### **TECHNICAL DATA**

Properties	value	USC units
Specific weight	1400 kg/m <sup>3</sup>	0,81 oz/in <sup>3</sup>
Elongation at failure	200%	-
Skin time	1 h	-
Time required for complete hardening (23 °C / 50% RH)	24 h	-
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	-
Application temperature	-10 / 65 °C	14 / 149 °F
Storage temperature <sup>(2)</sup>	5 / 40 °C	41 / 104 °F

(1)EN 1366-3 and UNI EN 1366-4 standards. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests. <sup>(2)</sup>Store the product in vertical in a dry, covered location for no more than 12 months. Check the expiry date on the cartridge.

Waste classification (2014/955/EU): 08 04 10.

### **RECOMMENDATIONS FOR INSTALLATION**

- 1 Spread the thixotropic paste using simple putty knives
- 2 Finish the sealed surface with a spatula



### FIELDS OF APPLICATION

- cables in cable trays
- mixed penetrations
- cables in corrugated tubes
- conduit penetrations
- combustible pipes .
- expansion joints
- multilayer pipes
- busbar
- insulated and non-insulated metal pipes

# SACCUS

### FIREPROOF BAG FOR CABLE TRAY PENETRATIONS





### PRACTICAL

Easy installation with optimised dimensions for more efficient use and main types of openings. It is repositionable, facilitating maintenance and modifications to installations. It minimises the sealing depth required to contain heat transfer.

### DURABLE

Suitable for installation in any environment, impervious to humidity and resistant to mould and bacteria. It contains no harmful materials or fibres.

### 

non-combustible glass fibre casing (200 g/m<sup>2</sup>) containing intu-(1) mescent granular compounds, heat-insulating aggregates, water-releasing products

# CODES AND DIMENSIONS

CODE	L	В	s	L	В	S	
	[mm]	[mm]	[mm]	[in]	[in]	[in]	
SACCUS100	100	120	25	4	4 3/4	1	60
SACCUS150	150	120	30	5 7/8	4 3/4	1 3/16	40
SACCUS200	200	120	30	7 7/8	4 3/4	1 3/16	25
SACCUS250	250	120	35	9 13/16	4 3/4	1 3/8	20
SACCUS300	300	120	35	11 13/16	4 3/4	1 3/8	15



### FAST APPLICATION

Easy to use without the need for special tools or fasteners.

### REPOSITIONABLE

Ideal for maintenance. Reuseable.

### **TECHNICAL DATA**

Properties	value	USC units
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	-

(1)EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests.

### ■ FIELDS OF APPLICATION

electrical and corrugated cables in cable trays (metal or PVC)



FLOOR SLAB



### RECOMMENDATIONS FOR INSTALLATION



- 1 Measure the length of the tray and choose the size and number of bags needed to completely seal the penetration
- 2 Place the bags inside the cable tray, taking care to position them with the certified side (120/200 mm) as the "wall thickness"
- **3** Completely fill the cable tray
- 4 Seal any remaining gaps in the space between the opening and the cable tray with the sealant SEAL W

### RELATED PRODUCTS



SEAL W page 324



MASS page 324

# PANNUS

### FIREPROOF COVER FOR METAL PIPE PENETRATIONS



### CONFIGURABLE

Lightweight and adaptable, PANNUS can be configured directly on-site, even without knowing the design dimensions and positions of the penetrations.

### AIDS COMPARTMENTALISATION

Certified in accordance with EN 1366-3 for non-insulated metal pipe and busbar penetrations. The non-combustible mineral wool fabric and ablative cooling treatment on the side in contact with the pipe prevent the spread of induction fires between compartments.



### COMPOSITION

(1) aluminized glass wool felt cover

(2) ablative compounds

### CODES AND DIMENSIONS

CODE	В	s	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[in]	[ft]	
PANNUS240	240	7	5	9 1/2	1/4	16 4 7/8	1

### TECHNICAL DATA

Properties	value	USC units
Density	100 kg/m³	0.06 oz/in <sup>3</sup>
Specific weight	0,25 kg/dm <sup>3</sup>	0.14 oz/in <sup>3</sup>
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	

(1)EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests.



### FIELDS OF APPLICATION

- non-insulated metal pipes
- insulated copper pipes
- busbar

### RECOMMENDATIONS FOR INSTALLATION



- 1 Measure the circumference of the metal pipe to be protected
- 2 Cut the amount of sheath needed to cover the pipe
- **3** Wrap the cover around the pipe, joining the ends and making sure the sheath adheres to the floor or wall (place the product on the side not exposed to fire)
- 4 Fix the sheath with intumescent tape or wire
- 5 Repeat the procedure, if necessary

### RELATED PRODUCTS



MASS page 324



PANEL page 340

# **GRAPHIT FOAM**

### TWO-COMPONENT FIREPROOF POLYURETHANE FOAM SUPPLEMENTED WITH GRAPHITE





### EXPANSIVE

The foam is made from a two-component intumescent polyurethane polymer that can expand up to 3 to 5 times its original volume. Graphite aids the foam's expansion, both during application and when exposed to fire.

### VERSATILE

Easily seals small cracks and openings, maximising the performance of other complementary products. Ideal for crossings with multiple pene-trating elements.

### RAPID

Easy and immediate application, it moulds directly on pipes, bends and fittings. It solidifies very quickly.



### CODES AND DIMENSIONS

CODE	content	content	
	[ml]	[US fl oz]	
GRAPHFOAM	330	11,16	10



### FIELDS OF APPLICATION

- electrical cables and corrugated tubes in cable tray
- combustible pipes
- insulated and non-insulated metal pipes
- multilayer pipes, possibly bundled
- mixed penetrations

### TECHNICAL DATA

Properties	value	USC units
Free expansion (20°C / 68°F)	3-5:1	-
Reaction time	10 sec	-
Tack free time	30 sec	-
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	-
Cutting time 23 °C/50% RH <sup>(2)</sup>	1 min	-
Application temperature	10 / 35 °C	50 / 95 °F
Storage temperature <sup>(3)</sup>	5 / 35 °C	41 / 95 °F

<sup>(1)</sup>EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests. <sup>(2)</sup>The data expressed may vary depending on the thickness of the product applied and the specific installation conditions: temperature, humidity, ventilation, absorbency of the substrate.

<sup>(3)</sup>Store the product in vertical in a dry, covered location for no more than 12 months. Check the expiry date on the cartridge.

Transfer Waste classification (2014/955/EU): 08 04 10.

### RECOMMENDATIONS FOR INSTALLATION







- 1 Screw the mixer onto the cartridge and place it in the dispensing gun
- 2 Apply the product until the opening is completely covered, complying with the thickness indicated in the technical specifications
- 3 Do not interrupt extrusion for longer than 5 seconds to prevent rapid hardening of the material in the mixer
- 4 Once it hardens, remove any excess material, cutting it away with a cutter

### RELATED PRODUCTS



PANEL page 340



UNICOLLUM

page 326







MAMMOTH DOUBLE page 400

SERVICE PENETRATIONS | **GRAPHIT FOAM** | 339

# PANEL PANEL WITH FIREPROOF COATING



CE



### VERSATILE

The panel is suitable for a wide range of wall and floor penetrations and crossings. Ready to use, no additional surface coatings required.

### LIGHT

Semi-rigid but extremely lightweight, the panel can be shaped directly on-site with a cutter. It is often used as a support on which to install other protective products such as SACCUS and COLLUM.

### COMPOSITION

(1) rock wool

(2) white ablative paint

### CODES AND DIMENSIONS

CODE	В	s	L	В	S	L	
	[mm]	[mm]	[mm]	[in]	[in]	[in]	
PANEL600	1200	50	600	47 1/4	2	23 5/8	5

### TECHNICAL DATA

Properties	value	USC units
Density	150 kg/m³	0,09 oz/in <sup>3</sup>
Specific weight	0,22 kg/dm <sup>3</sup>	0,12 oz/in <sup>3</sup>
Thermal conductivity $\lambda$	0,04 W/m·K	0,02 BTU/(h·ft·°F)
Fire resistance rating on CLT wall/floor <sup>(1)</sup>	EI120	-

(1)EN 1366-3 standard. For full details and tested configurations, please refer to the manual or contact our technical department for updates on new tests.



### FIELDS OF APPLICATION

- cables in trays and corrugated tubes
- combustible pipes

(2)

- insulated and non-insulated metal pipes
- multilayer pipes
- mixed penetrations
- conduit penetrations
- expansion joints
- busbar

### RECOMMENDATIONS FOR INSTALLATION



- 1 Measure the size and shape of the opening to be sealed and trace it on the panel
- 2 Cut the panel to size using a jigsaw or cutter, making the cut-out slightly larger than the size of the opening
- **3** Apply a small amount of sealant (SEAL W) on the sides of the cut-out or directly on the inside edge of the masonry where the cut-out will be positioned
- 4 Insert the cut-out in the opening, making sure it press fits
- 5 Level the joints with a spatula using some additional SEAL W sealant

### RELATED PRODUCTS



SEAL W page 324



UNICOLLUM page 326



CUTTER page 394

# FIRE SOLUTIONS

Fire safety is a critical concern for all construction systems, not just those made of timber. With an increased focus on fire design, we have spent years conducting rigorous tests to enhance our expertise and drive innovation.



Several test campaigns have demonstrated our products' ability to seal vertical and horizontal joints, ensuring effective sealing and thermal insulation.



The extensive range of membranes with an above-standard fire reaction rating allows an estimation of their contribution in case of fire and the design of high-performance stratigraphies.



A new range of products specifically designed to preserve the strength of a separating element at the point where it is penetrated by a technical installation.



### FULL-SCALE TESTING

In addition to laboratory testing, we have also analysed entire sections of buildings included in the research project "Fire Safe implementation of visible mass timber in tall buildings - compartment fire testing" coordinated by Research Institutes of Sweden (RISE). The project aims to perform a series of tests on CLT compartments in order to define the fire performance of timber structures and, if necessary, identify additional measures to improve fire safe-ty. The objectives also included the definition of protection criteria for multi-storey buildings and the verification of timber joints directly exposed to fire.

D. Brandon, J. Sjöström, A. Temple, E. Hallberg, F. Kahl, **"Fire Safe implementation of visible mass timber in tall buildings – compartment fire testing"**, RISE Report 2021:40



# LINEAR JOINTS

A linear joint is a linear gap with a length-to-width ratio of at least 10:1 within one or between two or more side-by-side construction elements. To ensure the effectiveness of the fire compartment, a system must be able to maintain fire separation using products tested in accordance with current regulations.

The following products have been tested for the fire protection of linear joints. Details of the tests are available at **www. rothoblaas.com.** 

# **PROTECT**

SELF-ADHESIVE BUTYL BAND, CAN BE PLASTERED

EI 90	CAN BE PLASTERED	DURABILITY	BUTYL BASED

For more information about the product see page 46.

CODE	В	s	L	В	s	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
PROTECT330	330	1	10	13.0	39	33	2
PROTECT500	500	1	10	19.7	39	33	1



# **CONSTRUCTION SEALING**

COMPRESSIBLE SEALING GASKET FOR REGULAR JOINTS



PI	SOUND ROTECTION

. .

	For more	information	about the	product se	e page 56.

CODE	В	s	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
CONSTRU4625	46	3	25	1.8	118	82	3







# SPEEDY BAND

### UNIVERSAL SINGLE-SIDED TAPE WITHOUT RELEASE LINER





For more information about the product see page 76.

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
SPEEDY50XL	50	50	1.9	164	12
SPEEDY60	60	25	2.4	82	10
SPEEDY100	100	25	3.9	82	6
SPEEDY150	150	25	5.9	82	4
SPEEDY300	300	25	11.8	82	2





# FLEXI BAND

UNIVERSAL SINGLE-SIDED HIGH-ADHESION TAPE

EI 90	DURABILITY	HIGH	LOW TEMPERATURE	SUITABLE FOI ALL SURFACE
EI 90 CLT	DURABILITY	HIGH ADHESION		SUITABLE FO

For more information about the product see page 78.

CODE	liner	В	L	liner	В	L	
	[mm]	[mm]	[m]	[in]	[in]	[ft]	
FLEXI60	60	60	25	2.4	2.4	82	10
FLEXI100	100	100	25	3.9	3.9	82	6
FLEXI5050	50 / 50	100	25	2.0 / 2.0	3.9	82	6
FLEXI7575	75 / 75	150	25	3.0/3.0	5.9	82	4



# **INVISI BAND**

TRANSPARENT SINGLE-SIDED ADHESIVE TAPE WITHOUT LINER, RESISTANT TO UV AND HIGH TEMPERATURES



For more information about the product see page 88.

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
INVISI60	60	25	2.4	82	10
INVISI100	100	25	3.9	82	6
INVISI200	200	25	7.9	82	2



# EXPAND BAND



SELF-EXPANDING SEALING TAPE

For more information about the product see page 118.





SOUND PROTECTION



CODE	В	S		L	
	[mm]	[n	nm]	[m]	
EXPAND1014	10	1	4	13	48
EXPAND1514	15	1	4	13	32
EXPAND1549	15	4	9	8	32
EXPAND15615	15	6	15	6	32
EXPAND20920	20	9	20	4	24
EXPAND40615	40	6	15	8	12
EXPAND60615	60	6	15	8	8

### EXPAND BAND EVO

CODE	В	S		L	
	[mm]	[n	nm]	[m]	
EXPANDEVO1514	15	1	4	13	32







# FIRE FOAM

B-s1,dO

CODE

FIREACR550

EI 240

CLT

For more information about the product see page 130.

content

[ml]

550

### HIGH FIRE-RESISTANT SEALING POLYURETHANE FOAM

B-s1,d0         EI 240         CLT	
For more information about t	he product see page 132.

CODE	<b>content</b> [ml]	yield [L]	colour	cartridge	
FIREFOAM	750	42	pink	steel	12

FIRE SEALING ACRYLIC

HIGH FIRE-RESISTANT ACRYLIC SEALANT



(À A+



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		-	( and the second	FIRE SEALING CE			
white	20	A	160	yso mile.			0
			Concerning of the second se	C. C. March 1997			



content

[US fl oz]

18.60

HIGH FIRE-RESISTANT SILICONE SEALANT

B-s2,d0 El 240	CLT	ict cae page 132	EXTERNAL SEALING	
CODE	content	content	colour	
FIRESILGRE310	[ml] 310	[US fl oz] 10.48	grey	24





346 | FIRE FOAM | FIRE SEALING ACRYLIC | FIRE SEALING SILICONE | LINEAR JOINTS

# FIRE STRIPE GRAPHITE

FLEXIBLE INTUMESCENT GASKET



For more information about the product see page 138.

CODE	В	S	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
FIRESTRIPEG25	25	1,5	50	1	59	164	7



A+

# **SUPRA BAND**

UNIVERSAL DOUBLE-SIDED BUTYL TAPE WITH HIGH ADHESION



For more information about the product see page 140.

CODE	В	s	L	В	S	L	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
SUPRA6	6	4	6	0.2	160	20	16
SUPRA10	10	4	6	0.4	160	20	22



# **MANICA PLASTER**

ADHESIVE SEALING SLEEVE THAT CAN BE PLASTERED

		**	<u>J</u> E	$\forall$
EI 90 CLT	DURABILITY	LOW TEMPERATURE	CAN BE PLASTERED	EASY USE

For more information about the product see page 146.

CODE	liner	В	s	L	В	S	L	
	[mm]	[mm]	[mm]	[m]	[in]	[mil]	[ft]	
MANPLA2080	20 / 80	100	1	10	3.9	39	33	6
MANPLA20180	20 / 180	200	1	10	7.9	39	33	2



# DEFENCE ADHESIVE

### SELF-ADHESIVE PROTECTIVE MEMBRANE

For more information about the product see page 182.										
CODE	liner	Н	L	А	Н	L	Α			
	[mm]	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]			
DEFA200	150/1300	1,55	50	77,5	5'1	164	834	50		
DEFAS200	192,5/192,5	0,385	50	19,25	1' 3 1/8	164	207	88		
DEFA200490	245/245	0,49	50	24,5	1'71/4	164	264	30		
DEFA200990	495/495	0,99	50	49,5	3' 3	164	533	16		

# **XYLOFON**

HIGH PERFORMANCE RESILIENT SOUNDPROOFING PROFILE









For more information about the product, visit the website **www.rothoblaas.com**.

CODE	Shore	В	L	S	pcs
		[mm]	[m]	[mm]	
XYL20050		50	3,66	6,0	1
XYL20080		80	3,66	6,0	1
XYL20090		90	3,66	6,0	1
XYL20100	20	100	3,66	6,0	1
XYL20120		120	3,66	6,0	1
XYL20140		140	3,66	6,0	1
XYL20160		160	3,66	6,0	1
XYL35080		80	3,66	6,0	1
XYL35090		90	3,66	6,0	1
XYL35100	75	100	3,66	6,0	1
XYL35120		120	3,66	6,0	1
XYL35140		140	3,66	6,0	1
XYL35160		160	3,66	6,0	1
XYL50080		80	3,66	6,0	1
XYL50090		90	3,66	6,0	1
XYL50100	50	100	3,66	6,0	1
XYL50120	50	120	3,66	6,0	1
XYL50140		140	3,66	6,0	1
XYL50160		160	3,66	6,0	1

CODE	Shore	В	L	s	pcs
		[mm]	[m]	[mm]	
XYL70080		80	3,66	6,0	1
XYL70090		90	3,66	6,0	1
XYL70100	70	100	3,66	6,0	1
XYL70120	/0	120	3,66	6,0	1
XYL70140		140	3,66	6,0	1
XYL70160		160	3,66	6,0	1
XYL80080		80	3,66	6,0	1
XYL80090		90	3,66	6,0	1
XYL80100	<b>8</b> 0	100	3,66	6,0	1
XYL80120	80	120	3,66	6,0	1
XYL80140		140	3,66	6,0	1
XYL80160		160	3,66	6,0	1
XYL90080		80	3,66	6,0	1
XYL90090		90	3,66	6,0	1
XYL90100		100	3,66	6,0	1
XYL90120	90	120	3,66	6,0	1
XYL90140		140	3,66	6,0	1
XYL90160		160	3,66	6,0	1

# WALLS, ROOFS AND FLOORS

Their chemical and physical properties, along with the construction characteristics of the structure, make it possible to design a system that effectively limits the spread of flames. Our range of passive fire protection products for walls, roofs and floors is designed to minimise material decomposition during fire exposure.

# **MULTI BAND UV**

### SPECIAL UV-RESISTANT HIGH-ADHESION TAPE

	M. P.	<u>J</u> Z	
B-s1,d0	100% UV RESISTANCE	CAN BE PLASTERED	DURABILITY

	For more information	about the product	see page 106
--	----------------------	-------------------	--------------

CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
MULTIUV60	60	25	2.4	82	10



# FRONT BAND UV 210

UNIVERSAL SINGLE-SIDED TAPE, HIGHLY RESISTANT TO UV RAYS

B-s1,d2	100% UV RESISTANCE	HIGH TEMPERATURE	CAMOUFLAGE

For more informa	tion about the p	roduct see page	e 108.		
CODE	В	L	В	L	
	[mm]	[m]	[in]	[ft]	
FRONTUV75	75	20	3.0	66	8



# BARRIER ALU NET SD1500 200 g/m<sup>2</sup>



REFLECTIVE VAPOUR BARRIER Sd > 1500 m

B-s1.d0		REFLECTIVE	Radon
	BARRIER	70%	BARRIER

1	For	more	informatio	n about	the	product	see	page 208.	

CODE	Н	L	А	Н	L	А	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BARALU1500	1,5	50	75	5	164	807	30



CE

# BARRIER ALU FIRE A2 SD2500 140 g/m<sup>2</sup>

REFLECTIVE AIR VAPOUR BARRIER FIRE REACTION CLASS A2-s1,d0

	STOP	
A2-s1,d0	SUPER BARRIER	REFLECTIVE 95%

For more information about the product see page 210.

BARALUAS300

175/175

0,35

CODE	Н	L	А	Н	L	А	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
BARALUFIR2500	1,2	50	60	4	164	646	35



### 

SELF-ADHESIVE REFLECTIVE VAPOUR BARRIER Sd > 1500 m



50

17,5

13.8

164



350 | BARRIERALUNETSD1500 | BARRIERALUFIREA2SD2500 | BARRIERALUNETADHESIVE300 | WALLS, ROOFSANDFLOORS

20

# **TRASPIR EVO UV 115**

### BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS





CODE	Н	L	А	Н	L	Α	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TUV115	1,5	50	75	5	164	807	36

# TRASPIR EVO 160

MONOLITHIC BREATHABLE MEMBRANE



TUV21030

3

50

DURABILITY 300Pa

For more information about the product see page 264.

CODE	tape	Н	L	А	Н	L	А	
		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TEVO160	-	1,5	50	75	5	164	807	30
TTTEVO160	TT	1,5	50	75	5	164	807	30
TEVO16030	-	3	50	150	10	164	1615	30

# **TRASPIR FELT EVO UV 210**

BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS

B-s1,d2					D		OPEN JOINT 5000h UV
For more info	rmation abo	out the pro	duct see pa	ge 271.			
CODE	Н	L	А	Н	L	Α	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TUV210	1,5	50	75	5	164	807	16

150

164











16

# **TRASPIR EVO UV 210**

### HIGHLY BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS



For more information about the product see page 272.

CODE	tape	Н	L	А	Н	L	Α	
		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TTTUV210	TT	1,5	50	75	5	164	807	24



# TRASPIR EVO UV ADHESIVE

SELF-ADHESIVE BREATHABLE MONOLITHIC MEMBRANE RESISTANT TO UV RAYS

B-s1,dO	

*	-
OPEN JOINT 5000h UV	DURABILIT

For more information about the product see page 19		For more	information	about the	product	see	page	196
--	--	----------	-------------	-----------	---------	-----	------	-----

CODE	tape	Н	L	А	Н	L	Α	
		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TUVA	-	1,45	50	72,5	4′91/8″	164	780	16
TUVA360	-	0,36	50	18	1′21/8″	164	194	30



HIGHLY BREATHABLE MONOLITHIC MEMBRANE



For more information about the product see page 280.

CODE	tape	н	L	А	Н	L	Α	
		[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	
TEVO300	-	1,5	50	75	5	164	807	24
TTTEVO300	TT	1,5	50	75	5	164	807	24







# **TRASPIR ALU FIRE A2 430**



REFLECTIVE HIGHLY BREATHABLE MEMBRANE

|--|

For more information about the product see page 290.

CODE	Н	L	А	Н	L	А	
	[m]	[m]	[m <sup>2</sup> ]	[ft]	[ft]	[ft <sup>2</sup> ]	200
TALUFIRE430	1,2	35	42	4	164	646	20



## **Fire tested**

We tested the **fire resistance** of our products applied on the most common CLT joints, measured the separation performance of the structure and published the **TEST REPORT** attesting to the real strength of CLT structures made with our products.

Download the TEST REPORT:





f 🞯 in 🖻

rothoblaas.com

# ROOF AND VENTILATION ELEMENTS

# ROOF AND VENTILATION ELEMENTS

### RIDGE

NET ROLL FLEXIBLE VENTILATED UNDER-RIDGE
STANDARD ROLL FLEXIBLE VENTILATED UNDER-RIDGE
METAL ROLL FLEXIBLE VENTILATED ALUMINIUM UNDER-RIDGE
BRUSH VENT RIGID UNDER-RIDGE WITH SIDE BRUSHES
PEAK VENT AISI 430 RIGID UNDER-RIDGE KIT
PEAK ONE VENTILATED UNDER-RIDGE FOR SINGLE PITCH
PEAK EASY VENTILATED RIGID RIDGE ROLL
<b>PEAK HOOK</b> RIDGE FASTENING HOOK FOR FLAT AND SHAPED TILES 367

SUPPORT BATTEN	
METAL BATTEN-HOLDERS	. 368

### CHIMNEY CONNECTION

ALU FLASH CONN	ECT
----------------	-----

ALUMINIUM AND SELF-ADHESIVE BUTYL VERSION	370
SOFT FLASH CONNECT	
EPDM AND BUTYL SELF-ADHESIVE VERSION	370

### MANICA ROLL

SELF-ADHESIVE LEAD AND BUTYL	. VERSION	0

### SNOW PROTECTION

SNOW STOP
SNOW STOPPER HOOK FOR RIDGE TILES AND TILES
RAIN TUBE

TEMPORARY DOWNPIPE FOR	
CONSTRUCTION SITE PHASES	73

### CLIPS

TILE STOP SS PRE-SHAPED HOOKS FOR PLAIN TILES
TILE STOP L L PRE-SHAPED HOOKS FOR PLAIN TILES
TILE STOP WIND PRE-SHAPED BRACING HOOKS FOR TILES
TILE STOP WIND COPPO         PRE-SHAPED BRACING HOOKS FOR RIDGE THES       377

### VENTILATION AND PROTECTION

VENT MESH FLEXIBLE VENTILATION GRID
VENT GRILLE PVC VENTILATION GRID
VENT FOLD PRE-BENT GRID FOR VENTILATION
BIRD SPIKE RIGID BIRD SPIKES
BIRD COMB STANDARD EAVES BIRD COMBS
BIRD COMB EVO TWIN ROW EAVES BIRD COMB
VENT SHAPE VENTILATION GRID FOR ROOFS MADE OF TILES OF VARIOUS SHAPE

# VENTILATION AND ROOF

Many factors need to be taken into account when designing and building a safe, healthy and durable roof.



### VENTILATION AND MICRO-VENTILATION



The micro-ventilation created under the tiles is favoured by

the geometry of the tile itself. It is sufficient for disposing of

excess humidity.



Ventilation under the roof is achieved by means of tile-holder battens and, in addition to disposing of humidity, it ensures the removal of excessive heat accumulated.





For a micro-ventilated roof, it is advisable to ensure a gap with a section of at least  $200 \text{ cm}^2$  for each linear metre of pitch.

For a ventilated roof, it is advisable to ensure a gap with a section varying from a minimum of 400 cm<sup>2</sup> to a maximum of 800 cm<sup>2</sup> per linear metre of pitch.

### TYPES OF ROOFS

Several factors determine this aspect: the construction tradition of the place where the roof is built, the experience of the builder and the specific requirements of the client.



MICRO-VENTILATED NON-INSULATED ROOF



VENTILATED NON-INSULATED ROOF



NON-INSULATED ROOF VENTILATED UNDER-ROOF



MICRO-VENTILATED INSULATED ROOF





VENTILATED UNDER-ROOF



Good ventilation helps the water vapour inside the building envelope to dry, preventing the formation of interstitial condensation at the insulation and of the structure.



In winter, ventilation makes snow that may have accumulated on the roof to melt evenly, preventing it from slipping uncontrollably.



During the warmer months, ventilation removes some of the thermal energy stored under the roof, contributing to improved housing comfort.



The ventilation layer offers additional protection in the event of accidental infiltration, as it creates a second layer of water flow and prevents water from stagnating.

VENTILATED INSULATED ROOF

THE ADVANTAGES OF GOOD VENTILATION

### DESIGN VENTILATION

### WHAT IS THE CHIMNEY EFFECT?

In order for a hot air balloon to fly and overcome the force of gravity, the density of the air inside the envelope must be reduced. How? Warming it up.

The density of confined air will be lower than the density of the outside air and the balloon will tend to rise upwards.

The same phenomenon occurs in ventilated roofs and is known as the "chimney effect".



### HOW VENTILATION TAKES PLACE

# .

Solar radiation heats the bent tiles. The ventilation chamber underneath acts as an "air cushion", preventing the direct passage of heat to the layers.

# 2

The air heated in the ventilation chamber, which is less dense than unheated air, rises upwards, also driven by the outside air entering through the eaves openings.



Then air leaves the ridge and mixes with the ambient air. This creates a vacuum inside the air chamber causing it to "empty". The lower pressure inside the chamber causes unheated outside air to be drawn in.



The air coming out of the ridge line creates a vacuum in the air chamber, inducing a draught of unheated outdoor air, which is transported into the ventilation chamber.







### LOCATION OF OPENINGS

To ensure that the ventilation cycle occurs without interruption it is essential to:

- create a proper air inlet near the gutter;
- ensure proper air outlet at the ridge line.



GUTTER



The most effective way to achieve a proper air inlet near the gutter is to use all those products that allow air to enter but protect the roof from intrusion by birds and small animals. The solutions offered by Rothoblaas include the ventilation grilles and eaves bird combs illustrated in this chapter.

**RIDGE LINE** 



Solutions that allow air to pass-through must be used in order to achieve a proper air inlet near the ridge line. Rothoblaas offers rigid or flexible ventilated under-ridges.



Protect air inlets and outlets from insects and birds, minimising section obstruction.

### INSTALLATION AND MAINTENANCE



Check that the gutter and ridge are free of obstacles that could impede air circulation.



Ensure water and snow transported by the wind near the ridge is sealed out.



Avoid battening or other impediments that could block the upward flow of air heated along the slope.

# RIDGE

# NET ROLL FLEXIBLE VENTILATED UNDER-RIDGE

### FLEXIBLE

The polypropylene ventilation fabric ensures excellent adaptability during installation.

### DOUBLE SECURITY

The ventilation strip, which is sewn and glued to the pleated wings, guarantees that the solution remains intact during installation and continues to be effective over time.



### **TECHNICAL DATA**

Properties	value	USC units
Air passage	approx. 150 cm <sup>2</sup> /m	7.09 in <sup>2</sup> /ft
Elongation capacity (pleated aluminium strips)	approx. 45 %	-
Butyl tape width	15 mm	0.6 in
Butyl tape thermal resistance	-40 / +90 °C	-40 / +194 °F
Application temperature	+5 / +40 °C	+41/+104 °F
UV resistance (aluminium straps)	permanent	-
Storage temperature <sup>(1)</sup>	+5 / +30 °C	+41/+86 °F

<sup>(1)</sup> Keep the product in a dry, covered location.

Waste classification (2014/955/EU): 17 09 04.

### CODES AND DIMENSIONS

CODE	В	L	В	L	colour	RAL	
	[mm]	[m]	[in]	[ft]			
NETRED310	310	5	12.2	16	brick red	8004	4
NETBRO310	310	5	12.2	16	brown	8019	4
NETBLA310	310	5	12.2	16	black	9005	4
NETRED390	390	5	15.4	16	brick red	8004	4
NETBRO390	390	5	15.4	16	brown	8019	4
NETBLA390	390	5	15.4	16	black	9005	4
NETRED39020	390	20	15.4	66	brick red	8004	1
NETBRO39020	390	20	15.4	66	brown	8019	1
NETBLA39020	390	20	15.4	66	black	9005	1



### EASY TO SHAPE

Aluminium straps and butyl tape ensure adaptability to the profile of the roof elements.

MATERIALS Aluminium, PP non-woven fabric, butyl tape.
#### STANDARD ROLL FLEXIBLE VENTILATED UNDER-RIDGE

#### ADAPTABLE

The polypropylene fabric ensures excellent flexibility during installation and a high aeration surface.

#### COST/PERFORMANCE

The adhesive butyl tape offers excellent adhesion on ridge tiles and tiles.



#### CODES AND DIMENSIONS

CODE	В	L	В	L	colour	RAL	
	[mm]	[m]	[in]	[ft]			
STANDRED390	390	5	15.4	16	brick red	8004	4
STANDBRO390	390	5	15.4	16	brown	8019	4
STANDANT390	390	5	15.4	16	anthracite	7021	4

Waste classification (2014/955/EU): 17 09 04.









## RIDGE

# METAL ROLL FLEXIBLE VENTILATED ALUMINIUM UNDER-RIDGE

#### **EXCELLENT ADHESION**

The special 4 cm wide butyl tape ensures strong and immediate adhesion to various surfaces.

#### DURABILITY

The choice of metal material ensures excellent UV stability even in harsh climate zones.



#### TECHNICAL DATA

Properties	value	USC units
Materials	aluminium, butyl	-
Butyl tape width	40 mm	1.57 in
Butyl tape adhesion property	> 19 N/cm	1.68 lbf/in
UV resistance	permanent	-
Application temperature	+5 / +25 °C	+41 / +77 °F
Temperature resistance	-30 / +80 °C	-22 / +176 °F
Storage temperature <sup>(1)</sup>	0 / +25 °C	+32 / +77 °F
<sup>(1)</sup> Keep the product in a dry, covered location.		

Waste classification (2014/955/EU): 17 09 04.

#### CODES AND DIMENSIONS

CODE	В	L	В	L	colour	RAL	
	[mm]	[m]	[in]	[ft]			
METRED400	400	5	15.8	16	brick red	8004	4
METBRO400	400	5	15.8	16	brown	8017	4
METANT400	400	5	15.8	16	anthracite	7021	4









#### BRUSH VENT RIGID UNDER-RIDGE WITH SIDE BRUSHES

#### FAST INSTALLATION

Thanks to its soft bristles, it adapts easily to the profile of the cover without the need for shaping.

#### PROTECTION

The bristles provide effective protection against the intrusion of water and foreign elements.



#### TECHNICAL DATA

Properties	value	USC units
Materials	PVC	-
Screen length	60 mm	2.36 in
Air passage	≥ 200 cm²/m	≥ 9.45 in²/ft
UV resistance	permanent	-
Temperature resistance	-20 / +80 °C	-4 / +176 °F

Waste classification (2014/955/EU): 17 02 03.

#### CODES AND DIMENSIONS

CODE	В	Н	L	В	Н	L	colour	RAL	
	[mm]	[mm]	[m]	[in]	[in]	[ft]			
BRUVENRED175	175	75	1	6.9	3.0	3	brick red	8004	20
BRUVENBRO175 <sup>(1)</sup>	175	75	1	6.9	3.0	3	brown	8019	20
BRUVENBLA175	175	75	1	6.9	3.0	3	black	9005	20

<sup>(1)</sup>Products available only upon order.









## RIDGE

## PEAK VENT AISI 430

#### HIGH-PERFORMANCE SOLUTION

Ready to use kit, including under-ridge, screws and adjustable brackets.

#### PERMANENT UV STABILITY

The robust stainless steel grid and pleated aluminium wings guarantee constant ventilation, stable over time.



#### **TECHNICAL DATA**

Properties	value	USC units
Butyl tape width	50 mm	0.8 in
Air passage	500 cm <sup>2</sup> /m	23.63 in <sup>2</sup> /ft
Butyl thermal resistance	-40 / +90 °C	-40 / +194 °F
Application temperature	+5 / +40 °C	+41/+104 °F
UV resistance	permanent	-
Watertightness (when installed under tiles)	compliant	-
Storage temperature	+5 / +30 °C	+41/+86 °F

Waste classification (2014/955/EU): 17 09 04.

For the installation, as many brackets and ventilation elements as linear metres of ridge must be used, with the addition of an initial support bracket. In addition, at least four screws must be provided for each bracket, two for fixing it to the battens and two for fixing the ventilation element to the bracket.

EXAMPLE: if my ridge measures 5 linear metres, I will need 5 ventilation elements + 6 support brackets and 24 self-drilling screws.

#### CODES AND DIMENSIONS

	CODE	В	L	н	В	L	Н	colour	RAL	
		[mm]	[m]	[mm]	[in]	[ft]	[in]			
1	PVENTREDI380	400	1	-	15.8	3	-	brick red	2001	5
1	PVENTBLAI380 <sup>(1)</sup>	400	1	-	15.8	3	-	black	9005	5
2	PVENTPLATE	50	-	230	2.0	-	9.01	steel	-	72
З	PVENTSCREW <sup>(1)</sup>	Ø 5,5	-	13	Ø 0.2	-	0.5	steel	-	20

<sup>(1)</sup>Products available only upon order.



#### EFFECTIVE

The perforation of the linear element and support brackets ensures perfect ventilation over time, without the need for additional supports.

MATERIALS

Stainless steel, pre-painted aluminium, butyl tape.

#### **RECOMMENDATIONS FOR INSTALLATION**









#### **PEAK ONE** VENTILATED UNDER-RIDGE FOR SINGLE PITCH

- 5 cm butyl tape
- High quality materials
- For ventilation of pitches against a vertical wall



#### CODES AND DIMENSIONS

CODE	B <sup>(1)</sup> L B <sup>(1)</sup>		L	material	colour	RAL		
	[mm]	[m]	[in]	[ft]				
PEAKONE165 <sup>(2)</sup>	165	1	6.5	3	galvanized metal sheet and aluminium	brown and brick red	8017 and 8004	3

<sup>(1)</sup>Aluminium strap length. <sup>(2)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 04 07.

## RIDGE

# PEAK EASY VENTILATED RIGID RIDGE ROLL

#### DURABLE

The choice of metal material ensures excellent UV stability even in harsh climate zones.

#### FAST INSTALLATION

Quick and easy to install, it adapts to any ridge line.



#### **TECHNICAL DATA**

Properties	value	USC units
Materials	aluminium, butyl	-
Canopy width	164 mm	6.5 in
Butyl tape width	15 mm	0.6 in
Air passage	> 230 cm²/m	10.87 in²/ft
Strap elongation	40%	-
Butyl thermal resistance	-30 / +80 °C	-22 / +176 °F
Application temperature	+5 / +30 °C	+41/+86 °F
UV resistance	permanent	-
Watertightness (when installed under tiles)	compliant	-
Storage temperature	0 / +25 °C	+32 / +77 °F

Waste classification (2014/955/EU): 17 09 04.

#### CODES AND DIMENSIONS

CODE	В	L	В	L	colour	RAL	
	[mm]	[m]	[in]	[ft]			
PEAKEASY400	400	1	15.7	3	brick red	8004	20







#### **PEAK HOOK** RIDGE FASTENING HOOK FOR FLAT AND SHAPED TILES

#### FAST DRY INSTALLATION

For installing the ridge without foam or mortar, in accordance with UNI 9460.

#### COMPLETE RANGE

Available in different versions and colours to suit different types of roofs.





#### CODES AND DIMENSIONS

CODE		В	Р	В	Р	version	material	colour	RAL	
		[mm]	[mm]	[in]	[in]					
	PUNIRED	115	18	4.5	0.7	universal	aluminium	brick red	8004	50
1	PUNIBRO	115	18	4.5	0.7	universal	aluminium	brown	8017	50
	PUNIANT	115	18	4.5	0.7	universal	aluminium	anthracite	7021	50
2	PCURRED	80	18	3.2	0.7	shaped	aluminium	brick red	8004	50
	PCURBRO	80	18	3.2	0.7	shaped	aluminium	brown	8017	50
	PCURANT <sup>(1)</sup>	80	18	3.2	0.7	shaped	aluminium	anthracite	7021	50

<sup>(1)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 04 02.





#### SUPPORT BATTEN METAL BATTEN-HOLDERS

#### STABLE AND ADJUSTABLE

The different models are adjustable in height and available in various sizes to ensure the stability of the roof ridge without the need for foam or mortar.

#### **4 VERSIONS**

Wide range with different fixing and adjustment methods depending on the type of ridge and the thickness to be compensated for by the batten.





#### CODES AND DIMENSIONS

	CODE	H <sup>(1)</sup>	В	H <sup>(1)</sup>	В	version	material	
		[mm]	[mm]	[in]	[in]			
1	SUPPORTUNI	210	50	8.3	2.0	universal	DX51D steel	50
2	SUPPORTNAIL <sup>(2)</sup>	280	50	11.0	2.0	with nail	DX51D steel	50
З	SUPPORTSCREW	260	50	10.2	2.0	with screw	DX51D steel	50
4	SUPPORTLEVEL	205 - 235	50	8.3 - 9.5	2.0	adjustable	DX51D steel	50

<sup>(1)</sup>Total height.

<sup>(2)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 04 05.



#### VERSATILE

It can be adapted to any type of roof and be fixed on the most common rigid supports such as wood or concrete.

#### MATERIAL

Made of steel for perfect durability and weather resistance.

#### **RECOMMENDATIONS FOR INSTALLATION**

1 SUPPORTUNI





2 SUPPORTNAIL





3 SUPPORTSCREW





4 SUPPORTLEVEL





## CHIMNEY CONNECTION

#### ALU FLASH CONNECT ALUMINIUM AND SELF-ADHESIVE BUTYL VERSION



- Butyl adhesive adheres perfectly, creating a durable watertight seal
- It can be cut with a cutter or scissors
- Excellent UV and weather resistance

CODE	В	s	L	В	S	L	coating	colour	RAL	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]				
ALURBLA300	300	2	5	11.8	79	16.40	aluminium 0,12 mm	black	9004	1

Waste classification (2014/955/EU): 17 09 04.

#### SOFT FLASH CONNECT EPDM AND BUTYL SELF-ADHESIVE VERSION

- Permanent UV stability
- Extremely flexible 3D surface
- It can be modelled by hand without special tools



CODE	В	s	L	В	S	L	coating	colour	RAL	
	[mm]	[mm]	[m]	[in]	[mil]	[ft]				
SOFTRRED300 <sup>(1)</sup>	300	2,5	5	11.8	98	16.40	EPDM 1,5 mm	brick red	8004	1
SOFTRBRO300 <sup>(1)</sup>	300	2,5	5	11.8	98	16.40	EPDM 1,5 mm	brown	8019	1
SOFTRBLA300 <sup>(1)</sup>	300	2,5	5	11.8	98	16.40	EPDM 1,5 mm	black	9004	1

<sup>(1)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 02 03.

# MANICA ROLL SELF-ADHESIVE LEAD AND BUTYL VERSION

- Smooth, perfectly malleable surface
- Permanent UV stability
- Excellent weather resistance



Avoid contact with skin, eyes and food. Do not produce and breathe dust.



#### **RECOMMENDATIONS FOR INSTALLATION**











#### ADAPTABLE

The special adhesive butyl mix offers strong adherence, even on rough surfaces.

MATERIAL Aluminium, EPDM and lead guarantee durability.

## **SNOW PROTECTION**

# SNOW STOPPER HOOK FOR RIDGE TILES AND TILES

#### STABLE

Stable mechanical fixing prevents accumulated snow falls.

#### COMPLETE RANGE

Available for ridge, Marseille and Portuguese type tiles in different colours.



#### CODES AND DIMENSIONS

CODE	Н	В	Р	Н	В	Р	version	material	colour	RAL	
	[mm]	[mm]	[mm]	[in]	[in]	[in]					
SSTOPREDUNI <sup>(1)</sup>	65	300	30	2.6	11.8	1.2	cement and roof tile	pre-painted metal sheet	brick red	8004	40
SSTOPBROUNI <sup>(1)</sup>	65	300	30	2.6	11.8	1.2	cement and roof tile	pre-painted metal sheet	brown	8017	40
SSTOPREDPOR <sup>(1)</sup>	65	300	30	2.6	11.8	1.2	Portuguese roof tile	pre-painted metal sheet	brick red	8004	40
SSTOPBROPOR <sup>(1)</sup>	65	300	30	2.6	11.8	1.2	Portuguese roof tile	pre-painted metal sheet	brown	8017	40
SSTOPREDFLAT <sup>(1)</sup>	65	280	30	2.6	11.0	1.2	Canadian tile, metal roofing	pre-painted metal sheet	brick red	8004	40
SSTOPBROFLAT <sup>(1)</sup>	65	280	30	2.6	11.0	1.18	Canadian tile, metal roofing	pre-painted metal sheet	brown	8017	40
SSTOPLBRO <sup>(1)</sup>	55	130	40	2.17	5.1	1.6	tile	pre-painted metal sheet	brown	8017	200
SSTOPLCOP <sup>(1)</sup>	55	130	40	2.17	5.1	1.6	tile	stainless steel	copper	-	200

<sup>(1)</sup>Products available only upon order.

Transfer Waste classification (2014/955/EU): 17 04 05.





#### **RAIN TUBE** TEMPORARY DOWNPIPE FOR CONSTRUCTION SITE PHASES

- It protects building façades during construction or renovation work
- Versatile, easy-to-use solution





#### CODES AND DIMENSIONS

CODE	d	L	d	L	material	colour	
	[mm]	[m]	[in]	[ft]			
RTUBE100	130	100	5.1	328	LDPE	transparent	1

Waste classification (2014/955/EU): 17 02 03.

## CLIPS

#### **TILE STOP S** S PRE-SHAPED HOOKS FOR PLAIN TILES

- Prevents roof from slipping
- Dry installation
- Fast and safe interlocking
- Installation with foam or mortar is avoided in compliance with standard UNI 9460
- Wide range of materials and sizes available



#### CODE L Н L н material colour RAL [mm] [mm] TSSI9016<sup>(1)</sup> steel AISI 204 90 16 3.5 0.6 steel 100 TSSI9020<sup>(1)</sup> 90 20 3.5 0.8 steel AISI 204 steel 100 TSSI12016<sup>(1)</sup> 120 16 4.7 0.6 steel AISI 204 steel 50 TSSI12020<sup>(1)</sup> 120 20 4.7 0.8 steel AISI 204 50 steel TSSRED9016<sup>(1)</sup> 90 16 3.5 0.6 pre-painted metal sheet Siena red 3009 50 TSSRED9020<sup>(1)</sup> pre-painted metal sheet 90 20 3.5 0.8 Siena red 3009 50 TSSRED12016(1) 120 16 4.7 0.6 pre-painted metal sheet Siena red 3009 50 TSSRED12020<sup>(1)</sup> 120 20 4.7 0.8 Siena red 3009 50 pre-painted metal sheet TSSBRO9016<sup>(1)</sup> 90 16 3.5 0.6 pre-painted metal sheet brown 8019 100 TSSBRO9020<sup>(1)</sup> 90 20 3.5 pre-painted metal sheet brown 8019 100 TSSCOP9016<sup>(1)</sup> 90 16 3.5 0.6 stainless steel tape 50 copper TSSCOP9020<sup>(1)</sup> 90 20 3.5 50 stainless steel tape copper \_

CODES AND DIMENSIONS

<sup>(1)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 04 05.





## CLIPS

#### **TILE STOP L** L PRE-SHAPED HOOKS FOR PLAIN TILES

- Dry installation
- Tough and secure hold for the first row of tiles on the pitch
- They can be used as mullion hooks on which the weight of the upper rows of tiles can be unloaded
- Installation with foam or mortar is avoided in compliance with standard UNI 9460
- Wide range of materials and sizes available





CODES AND DIMENSIONS
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CODE	L	Н	L	Н	material	colour	RAL	
	[mm]	[mm]	[in]	[in]				
TSLI28016 <sup>(1)</sup>	280	16	11.0	0.6	steel AISI 204	steel	-	200
TSLI28020 <sup>(1)</sup>	280	20	11.0	0.8	steel AISI 204	steel	-	200
TSLRED28016 <sup>(1)</sup>	280	16	11.0	0.6	pre-painted metal sheet	Siena red	3009	200
TSLRED28020 <sup>(1)</sup>	280	20	11.0	0.8	pre-painted metal sheet	Siena red	3009	200
TSLBRO28016 <sup>(1)</sup>	280	16	11.0	0.6	pre-painted metal sheet	brown	8019	200
TSLBRO28020 <sup>(1)</sup>	280	20	11.0	0.8	pre-painted metal sheet	brown	8019	200
TSLCOP28016 <sup>(1)</sup>	280	16	11.0	0.6	stainless steel tape	copper	-	200
TSLCOP28020 <sup>(1)</sup>	280	20	11.0	0.8	stainless steel tape	copper	-	200

 $\ensuremath{^{(1)}}\xspace{\mathsf{Products}}$  available only upon order.

Waste classification (2014/955/EU): 17 04 05.





## CLIPS

# TILE STOP WIND PRE-SHAPED BRACING HOOKS FOR TILES

- They prevent tiles from tipping over in the event of wind
- They ensure maximum stability of the roof covering
- Installation with foam or mortar is avoided in compliance with standard UNI 9460



#### CODES AND DIMENSIONS

CODE	version	material	colour	
TSWIND <sup>(1)</sup>	per tile	zinc-plated steel	steel	200

 $^{(1)}$ Products available only upon order.

Waste classification (2014/955/EU): 17 04 05.



# TILE STOP WIND COPPO PRE-SHAPED BRACING HOOKS FOR RIDGE TILES

- They prevent tiles from tipping over in the event of wind
- They ensure maximum stability of the roof covering
- Installation with foam or mortar is avoided in compliance with standard
   UNI 9460



#### CODES AND DIMENSIONS

CODE	version	material	colour	
TSWINDC <sup>(1)</sup>	for tiles without hole	steel AISI 204	steel	200

<sup>(1)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 04 05.



## **VENTILATION AND PROTECTION**

#### **VENT MESH** FLEXIBLE VENTILATION GRID

- Available in different heights and materials
- Available in different colour variations
- It prevents the entry of birds and insects allowing continuous ventilation



#### CODES AND DIMENSIONS

CODE	Н	L	Н	L	material	colour	RAL	
	[mm]	[m]	[in]	[ft]				
VENTREDBRO80	80	5	3.2	16	aluminium	brick red / brown	8004/8017	1
VENTREDBLA80 <sup>(1)</sup>	80	5	3.2	16	aluminium	brick red/black	8004/9005	1
VENTCOP80 <sup>(1)</sup>	80	25	3.2	82	aluminium	copper	-	1
VENTREDBRO100	100	5	3.9	16	aluminium	brick red / brown	8004/8017	1
VENTREDBLA100 <sup>(1)</sup>	100	5	3.9	16	aluminium	brick red/black	8004/9005	1
VENTCOP100 <sup>(1)</sup>	100	25	3.9	82	aluminium	copper	-	1
VENTREDBRO120	120	5	4.7	16	aluminium	brick red / brown	8004/8017	1
VENTREDBLA120 <sup>(1)</sup>	120	5	4.7	16	aluminium	brick red/black	8004/9005	1
VENTCOP120 <sup>(1)</sup>	120	25	4.7	82	aluminium	copper	-	1
VENTREDBRO160	160	5	6.3	16	aluminium	brick red / brown	8004/8017	1
VENTREDBLA160 <sup>(1)</sup>	160	5	6.3	16	aluminium	brick red/black	8004/9005	1
VENTCOP160 <sup>(1)</sup>	160	25	6.3	82	aluminium	copper	-	1

 $^{(1)}$ Products available only upon order.

🔟 Waste classification (2014/955/EU): 17 04 02 (aluminium).

# VENT GRILLE

- Made of extremely weatherproof, impact and UV resistant material
- It protects the air entry section from animals and insects that might obstruct it



#### CODES AND DIMENSIONS

CODE	Н	L	Н	L	material	colour	RAL	
	[mm]	[m]	[in]	[ft]				
VENTG80R	80	5	3.2	16	PVC	brick red	8004	24
VENTG80B	80	5	3.2	16	PVC	black	9005	24
VENTG100R	100	5	3.9	16	PVC	brick red	8004	24
VENTG100B	100	5	3.9	16	PVC	black	9005	24

Waste classification (2014/955/EU): 17 02 03.

#### **VENT FOLD** PRE-BENT GRID FOR VENTILATION

- Large air entry
- Easy installation thanks to the support foot
- Extremely weather resistant



#### CODES AND DIMENSIONS

CODE	Н	В	L	Н	В	L	material	colour	RAL	
	[mm]	[mm]	[m]	[in]	[in]	[ft]				
VENTFSRED7030 <sup>(1)</sup>	70	30	1,5	2.8	1.2	5	pre-painted metal sheet	brick red	8004	10
VENTFSBRO7030 <sup>(1)</sup>	70	30	1,5	2.8	1.2	5	pre-painted metal sheet	brown	8017	10
VENTFSRED9030 <sup>(1)</sup>	90	30	1,5	3.5	1.2	5	pre-painted metal sheet	brick red	8004	10
VENTFSBRO9030 <sup>(1)</sup>	90	30	1,5	3.5	1.2	5	pre-painted metal sheet	brown	8017	10
VENTFPRED7030 <sup>(1)</sup>	70	30	2,5	2.8	1.2	8	PP	brick red	8004	20
VENTFPBRO7030 <sup>(1)</sup>	70	30	2,5	2.8	1.2	8	PP	brown	8017	20
VENTFPRED9030 <sup>(1)</sup>	90	30	2,5	3.54	1.2	8	PP	brick red	8004	20
VENTFPBRO9030 <sup>(1)</sup>	90	30	2,5	3.54	1.2	8	PP	brown	8017	20

<sup>(1)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 02 03 (PP), 17 04 05 (metal sheet).

# BIRD SPIKE

• Element made up of a steel or polycarbonate base with stainless steel spikes fixed to the base to prevent birds from stopping on place



#### CODES AND DIMENSIONS

	CODE	В	Н	L	В	Н	L	version	
		[mm]	[mm]	[mm]	[in]	[in]	[in]		
1	BIRDSPIKE	60	110	1000	2.4	4.3	3280	single	25
2	BIRDSPIKEP1 <sup>(1)</sup>	60	110	335	2.4	4.3	13.2	single	150
З	BIRDSPIKEP2 <sup>(1)</sup>	60	110	320	2.4	4.3	12.6	double	150

<sup>(1)</sup>Products available only upon order.

🟢 Waste classification (2014/955/EU): 17 09 04 (polycarbonate + steel), 17 04 05 (steel).

## **VENTILATION AND PROTECTION**

#### **BIRD COMB** STANDARD EAVES BIRD COMBS

#### ADAPTABLE

The flexible polymer compound screens adapt to the profile of the final roof covering.

#### WIDE RANGE

It can be supplied in different colours and heights to meet different application needs. Also available in a version with a raised base to avoid the first eaves batten.





#### CODES AND DIMENSIONS

	CODE	Н	L	Н	L	version	material	colour	RAL	
		[mm]	[m]	[in]	[ft]					
1	BIRDRED60	60	1	2.4	3	without joist	PP	brick red	8004	200
	BIRDBRO60	60	1	2.4	3	without joist	PP	brown	8019	200
	BIRDBLA60	60	1	2.4	3	without joist	PP	black	9005	200
	BIRDRED100	100	1	3.9	3	without joist	PP	brick red	8004	50
	BIRDBRO100	100	1	3.9	3	without joist	PP	brown	8019	50
	BIRDBLA100	100	1	3.9	3	without joist	PP	black	9005	50
	BIRDRED6025	85	1	3.4	3	with 25 mm joist	PP	brick red	8004	50
2	BIRDBRO6025 <sup>(1)</sup>	85	1	3.4	3	with 25 mm joist	PP	brown	8019	50
	BIRDBLA6025 <sup>(1)</sup>	85	1	3.4	3	with 25 mm joist	PP	black	9005	50

<sup>(1)</sup>Products available only upon order.

Waste classification (2014/955/EU): 17 02 03.



#### VERSATILE

It can be used in combination with all types of tiles and ridge tiles, thanks to its ability to adapt to the different shapes of the roof elements.

#### MATERIAL

Made of high quality polypropylene, weatherproof, impact and UV resistant.

#### BIRD COMB EVO TWIN ROW EAVES BIRD COMB

#### MAXIMUM EFFICIENCY

Advanced eaves bird comb with twin row of perforated teeth to guarantee the maximum passage of air and secure protection against the entrance of birds.

#### VERSATILE

Also available in the version with raised base to increase the support thickness of the last row of tiles, aligning it with the slope of the roof.





#### CODES AND DIMENSIONS

	CODE	Н	L	Н	L	version	material	colour	RAL	
		[mm]	[m]	[in]	[ft]					
	BIRDERED70 <sup>(1)</sup>	70	1	2.8	3	without joist	PP	brick red	2001	100
1	BIRDEBRO70 <sup>(1)</sup>	70	1	2.8	3	without joist	PP	brown	8019	100
I	BIRDERED110 <sup>(1)</sup>	110	1	4.3	3	without joist	PP	brick red	2001	60
	BIRDEBRO110 <sup>(1)</sup>	110	1	4.3	3	without joist	PP	brown	8019	60
~	BIRDERED7025 <sup>(1)</sup>	90	1	3.5	3	with 25 mm joist	PP	brick red	2001	35
2	BIRDERED11025 <sup>(1)</sup>	130	1	5.1	3	with 25 mm joist	PP	brick red	2001	25

 $^{(1)}$ Products available only upon order.

Waste classification (2014/955/EU): 17 02 03.



#### STABLE OVER TIME

The polymeric compound ensures good stability over time, guaranteeing the protective function of the ventilation.

#### MATERIAL

Made of high quality polypropylene, weatherproof, impact and UV resistant.

## **VENTILATION AND PROTECTION**

## **VENT SHAPE**

#### VENTILATION GRID FOR ROOFS MADE OF TILES OF VARIOUS SHAPE

#### DURABILITY

Made of metal sheet, it is resistant and perfectly weatherproof.

#### FAST INSTALLATION

Pre-bending and shaping during production makes installation immediate, without the need for additional supports.





#### CODES AND DIMENSIONS

CODE	Н	h	Ρ	L	Н	h	Р	L	version	material	colour	RAL	
	[mm]	[mm]	[mm]	[mm]	[in]	[in]	[in]	[in]					
1 VENTSBRO9015 <sup>(1)</sup>	90	15	195	975	3.5	0.6	7.7	38.4	for ridge tile	perforated metal sheet	brown	8017	10
2 VENTSBR07519 <sup>(1)</sup>	75	19	200	1000	3.0	0.8	7.9	39.4	for Portuguese roof tiles	expanded metal sheet	brown	8017	10
3 VENTSBRO4520 <sup>(1)</sup>	45	20	300	900	1.8	0.8	11.8	35.4	for concrete French roof tiles	perforated metal sheet	brown	8017	10
4 VENTSBR07020 <sup>(1)</sup>	70	20	300	900	2.8	0.8	11.8	35.4	for concrete Greek roof tile	perforated metal sheet	brown	8017	10

Other versions and dimensions are available on request.  $^{\left(1\right)}$  Products available only upon order.

Waste classification (2014/955/EU): 17 04 05.

CODE	L	Н	L	Н	version	material	colour	
	[mm]	[mm]	[in]	[in]				
5 VENTSHOOK <sup>(1)</sup>	50	20	2.0	0.8	for ridge tile	stainless steel strap	steel	100



#### **UV STABILITY**

The choice of metal material ensures excellent UV stability even in harsh climate zones.

SAFETY

They allow under-tile micro-ventilation, protecting the roof from the entry of leaves and animals.









# TOOLS

## TOOLS

#### TARPAULINS FOR ROOFS

CAP TOP
TARPAULIN FOR ROOFS
CAP PLUS TARPAULIN FOR ROOFS
CAP ECO TARPAULIN FOR ROOFS

#### INSTALLATION

LIZARD UNWINDER FOR NAIL POINT SEALING TAPE
SPEEDY ROLL SPEEDY BAND UNWINDER WITH LONG HANDLE
MEMBRANE ROLL DISPENSER FOR SELF-ADHESIVE MEMBRANE WITHOUT RELEASE LINER
PUMP SPRAY ELECTRIC AIRLESS SPRAYER
HOT GUN HOT AIR GUN
ROLLER ROLLER FOR TAPES
WINBAG INFLATABLE AIR CUSHION WITH HAND PUMP MADE OF FIBRE-REINFORCED SYNTHETIC MATERIAL
NITRAN

NYLON-ELASTAN/NITRILE FOAM GLOVES	393
GLASS 1	
GLASSES WITH TEMPLES	393

#### SHEAR

MARLIN CUTTER ALLROUND
CUTTER FOR PROFESSIONAL CUTTING
LAMA KNIFE FOR INSULATION MATERIAL
KOMPRI CLAMP EXPANDING TAPE STAPLE

#### STAPLERS

HAMMER STAPLER 47 HAMMER STAPLER	
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#### GUNS

FLY SOFT SEALANT GUN FOR 600 ML SOFT CARTRIDGES
FLY PROFESSIONAL GUN FOR 310 ML CARTRIDGES
FLY FOAM AUTOMATIC LONG TUBE GUN FOR FOAMS
FOAM CLEANER DETERGENT FOR CARTRIDGE GUNS
MAMMOTH SPECIAL GUN FOR 400 ML CARTRIDGES
MAMMOTH DOUBLE SPECIAL GUN FOR TWO-COMPONENT ADHESIVE

# TARPAULIN FOR ROOFS

- Each size is equipped with a reinforced lifting hook for easier installation
- Thanks to metal eyelets, the tarpaulin can be fixed every metre on the roof
- The large mass per unit area and the type of material guarantee better mechanical resistance and durability over time
- When fixing the tarpaulin to the roof it is important that all eyelets are always anchored so that the wind load is spread over as many eyelets as possible

#### CODES AND DIMENSIONS

CODE	<b>sizes</b> [m]	<b>weight</b> [kg]	pcs
CAPTOP1012	10 x 12	72,0	1
CAPTOP1214	12 x 14	100,8	1
CAPTOP1416	14 x 16	134,4	1

Other sizes and/or personalised sheets can be supplied on request.

#### TECHNICAL DATA

Properties	standard	values
Mass per unit area	ISO 2286-2	600 g/m <sup>2</sup>
Thickness	ISO 2286-3	0,5 mm
Tensile strength (transverse and longitudinal)	ISO 1421-1	2200 / 2000 N/50 mm
Tear strength (transverse and longitudinal)	ISO 1421-1	280 / 250 N/50 mm
UV colour resistance	ISO 105 B02	7/8 (on a scale from 1 to 8)
Eyelet tear strength	-	100 kg







#### MATERIAL

Truck tarpaulin in polyester covered in matt lacquered PVC.

#### PROTECTION

During construction, it offers temporary protection against rain and avoids infiltration of dust and construction remains into the cracks between the panels.

# CAP PLUS

#### TARPAULIN FOR ROOFS

- Good mechanical characteristics resistant to both tension and tearing
- Thanks to the metal fastening eyelets positioned every metre, it is
- possible to fix the tarpaulin firmly to the roof



#### CODES AND DIMENSIONS

CODE	sizes	weight	pcs
	[m]	[kg]	
CAPPLUS0810	8 x 10	24,0	1
CAPPLUS1012	10 x 12	36,0	1
CAPPLUS1214	12 x 14	50,4	1
CAPPLUS1416	14 x 16	67,2	1
CAPPLUS1618	16 x 18	86,4	1

#### **TECHNICAL DATA**

Properties	standard	values
Mass per unit area	ISO 2286-2	300 g/m <sup>2</sup>
Thickness	ISO 2286-3	0.4 mm
Tensile strength (transverse and longitudinal)	ISO 1421-1	1200 / 1000 N/50 mm
Tear strength (transverse and longitudinal)	ISO 1421-1	130 / 80 N/50 mm

# CAP ECO

#### TARPAULIN FOR ROOFS

- The black inner fabric gives better resistance to UV rays
- Thanks to the metal fastening eyelets positioned every metre, it is possible to fix the tarpaulin firmly to the roof

#### CODES AND DIMENSIONS

CODE	sizes	weight	pcs
	[m]	[kg]	
CAPECO0410	4 x 10	8,4	1
CAPECO0810	8 x 10	16,8	1

#### TECHNICAL DATA

Properties	standard	values
Mass per unit area	ISO 2286-2	210 g/m <sup>2</sup>
Thickness	ISO 2286-3	0,27 mm
Tensile strength (transverse and longitudinal)	ISO 1421-1	980 / 920 N/50 mm
Tear strength (transverse and longitudinal)	ISO 1421-1	120 / 75 N/50 mm



# UNWINDER FOR NAIL POINT SEALING TAPE

#### TIME SAVING

Thanks to the fast and precise application of the nail sealing tape, application costs can be considerably reduced.

#### WATERPROOF

The correct application of the nail point tape guarantees the membrane impermeability in case of perforation by means of fastening.



#### CODES AND DIMENSIONS

CODE	description	pcs
LIZARD	unwinder	1

#### RELATED PRODUCTS







#### VIDEO Scan the QR Code and watch the video on our YouTube channel





#### RECOMMENDED PRODUCT

Optimal with NAIL PLASTER single-sided nail point tape.

#### FIELDS OF USE

For nail point tape from 50 to 80 mm wide and timbers from 40 x 40 mm to 80 x 80 mm.

# SPEEDY ROLL

#### SPEEDY BAND UNWINDER WITH LONG HANDLE



#### CODES AND DIMENSIONS

SPEEDY60

CODE	description	length [cm]	pcs
SPEEDYROLL	SPEEDY BAND dispenser	120 - 200	1
OPTIONAL ITEMS	5		
CODE	В	L	pcs
	[mm]	[m]	

25

10

60



# MEMBRANE ROLL

# DISPENSER FOR SELF-ADHESIVE MEMBRANE WITHOUT RELEASE LINER



CODE	description	pcs	
MEMROLL	unwinder for membranes		1
RELATED PRODU	JCTS		
CODE	В	L	pcs
	[m]	[m]	
DEFASPEEDY	1,55	50	1



# 

## ELECTRIC AIRLESS SPRAYER

#### SPEED AND EFFICIENCY

Apply by simply spraying: an extremely fast procedure, even in hard-to-reach places.

#### TRANSPARENT SUCTION SYSTEM

Easy to use and clean. For spraying solvent- or water-based paints.





#### CODES AND DIMENSIONS

CODE	description	version	pcs
PUMPSPRAY240	electric airless pump	240 V cable	1

#### **TECHNICAL DATA**

Properties	values	USC units
Max. operating pressure	207 bar	3000 Psi
Max. capacity	1,4 lpm	0.38 gpm
Max. nozzle size - 1 gun	0,021"	0.021"
Flexible	3/16" x 7,5 m	3/16" x 25 ft
Operating temperature	+4 / +46°C	40°F - 115°F
Weight	14,0 kg	31 lb

#### 390 | PUMP SPRAY | TOOLS

#### **APPLICATION**



- 1 Set the machine according to the manual. Choose the appropriate nozzle for the corresponding application
- 2 Mix the product thoroughly, diluting it slightly if necessary with a suitable thinner
- 3 Apply the product. We recommend performing a spot test before application to check for compatibility
- 4 Clean the machine well with water

Before using the machine, read the relative user manual.

#### **FLUID MEMBRANE**

SYNTHETIC SEALING MEMBRANE FOR BRUSH AND SPRAY APPLICATION

CODE	content	content	colour	
	[kg]	[lb]		
FLUIDMEM	10	22	grey	1



# HOT GUN

#### POWERFUL AND ROBUST

Professional hot air gun with robust body for use in construction sites. The 1600 W power ensures rapid heating.

#### ALSO USEFUL FOR OVERHEAD JOBS

The ergonomic two-part handle and optimised centre of gravity ensures an ideal grip, even for jobs involving welding longer elements in difficult conditions.

#### ADJUSTABLE

The temperature can be set up to a maximum of 700°C.





#### CODES AND DIMENSIONS

	CODE	description	pcs
1	HOTGUN <sup>(*)</sup>	professional hot air gun	1
2	HOTGUNFN40	flat 40 mm nozzle	1
(*)	lozzle not included.		

Scope of supply: hot air gun in plastic case.

## TECHNICAL DATA

Properties	values	USC units
Tension	230 V	-
Frequency	50/60 Hz	-
Performance	1600 W	-
Temperature	40-700 °C	104 - 1292 °F
Airflow (20°C)	240 l/min	8.47 cfm
Nozzle connection Ø	31,5 mm	1.25 in
Protection class	II	-
Weight	1 kg	2.18 lb

#### 392 | HOT GUN | TOOLS

## ROLLER ROLLER FOR TAPES

CODE	description	size	pcs
		[mm]	
RLL45	PUR roller	45	1

# WINBAG

INFLATABLE AIR CUSHION WITH HAND PUMP MADE OF FIBRE-REINFORCED SYNTHETIC MATERIAL

CODES AND DIMENSIONS

CODE	size	thickness	pcs
	[cm]	[mm]	
WINBAG	15 x 16	2 - 50	4

# NITRAN

#### CODES AND DIMENSIONS

CODE	size	pcs
NIT8	8	1
NIT9	9	1
NIT10	10	1

# GLASS 1

**GLASSES WITH TEMPLES** 

CODE	description	pcs
GLASS1	side protection	1













- Supplied with triple-ground blades
- Extremely robust 100% rust proof spare blade compartment not included





#### CODES AND DIMENSIONS

CODE	description	pcs
MARLIN	cutter	1
MARBLA	spare blades	10

# CUTTER

#### FOR PROFESSIONAL CUTTING

- The safety lever allows the blade to be changed quickly and easily
- The soft support makes it even easier to apply maximum pressure with your thumb



CODE	description	pcs
CUTTER	cutter with 5 spare blades	1
CUT60	spare trapezoidal blade	10



## **LAMA** KNIFE FOR INSULATION MATERIAL

- It can be used on both sides, 2 mm thick stainless steel blade
- Ergonomic handle shape for optimal cut of insulation materials



#### CODES AND DIMENSIONS

CODE	blade length	weight	pcs
	[mm]	[g]	
LAMA	280	175	1



# **KOMPRI CLAMP**

EXPANDING TAPE STAPLE



CODE	opening dimensions	
	[mm]	
KOMPRICLAMPS	0-30	5
KOMPRICLAMPL	40-95	5



# HAMMER STAPLER 47

#### HAMMER STAPLER

• For L type staples measuring **6 - 10 mm** 

• Weight: **0,87 kg** 



#### CODES AND DIMENSIONS

CODE	pcs
HH735347	1

# HAMMER STAPLER 22

#### HAMMER STAPLER

- For L type staples measuring 8 14 mm
- Weight: 1,04 kg



#### CODES AND DIMENSIONS

CODE
HH735322





**pcs**
# HAND STAPLER

• For L type staples measuring **6 - 14 mm** 

• Weight: 0,6 kg



### CODES AND DIMENSIONS

CODE	pcs
RTHH14B	1

CHISEL TIP

• Wire 0,5 mm







CODE	L	coating	со	mpatible mach	pcs	kg	pcs/ 🧼	
	[mm]		HH735347	HH735322	RTHH14B			
HH10005121	6	zinc plated	٠		٠	5000	0,5	6000000
HH10005122	8	zinc plated	•	•	•	5000	0,6	6000000
HH10005123	10	zinc plated	•	٠	•	5000	0,7	6000000
HH10005124	12	zinc plated		•	•	5000	0,7	6000000
HH10005125	14	zinc plated		•	•	5000	0,8	6000000

## SEALANT GUN FOR 600 ml SOFT CARTRIDGES

• For all soft cartridges up to 600 ml, robust body





### CODES AND DIMENSIONS

CODE	description	pcs
FLYSOFT	for 600 ml soft cartridges	1
STINGSOFT	spare nozzle for soft cartridges	1



### PROFESSIONAL GUN FOR 310 ml CARTRIDGES

• High stability gun for standard 310 ml cartridges







## FLY FOAM

### AUTOMATIC LONG TUBE GUN FOR FOAMS

- For all common bayonet lock foam cartridges
- With screw for flow regulation





#### CODES AND DIMENSIONS

CODE	description	pcs
FLYFOAM	foam gun	1

## FOAM CLEANER

DETERGENT FOR CARTRIDGE GUNS

• It allows the internal cleaning of cartridge guns, preventing foam residues from impairing their operation



### CODES AND DIMENSIONS

content	pcs
[ml]	
500	12
	content [ml] 500

Aerosol 1. Eye Irrit. 2. STOT SE 3.





# SPECIAL GUN FOR 400 ml CARTRIDGES

• Large, strong gun for 400 ml cartridges (e.g. VIN-FIX PRO)



### CODES AND DIMENSIONS

CODE	description	pcs
MAM400	for cartridges of 400 ml	1

Δħ



## MAMMOTH DOUBLE

## SPECIAL GUN FOR TWO-COMPONENT ADHESIVE

- Suitable for GRAPHIT FOAM cartridges
- Also suitable for XEPOX line cartridges, such as XEPOXF400 and XEPOXD400



### CODES AND DIMENSIONS

CODE	description	pcs
MAMDB	for double cartridge	1





### WOODY, get it done faster

**WOODY** is the ideal timber connector for prefabricated **Timber Frame** structures. Featuring a dovetail shape offering unrivalled precision, it perfectly adapts to panels in OSB, gypsum fibre and plywood.

WOODY speeds up production, ensures secure, long-lasting connections and eliminates installation errors thanks to its perfect symmetry.

Offering tolerances otherwise unattainable with metal plate systems, it is precise, it is universal, it is WOODY:





Solutions for Building Technology



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