RHINOPLAST EVOLUTION P-A

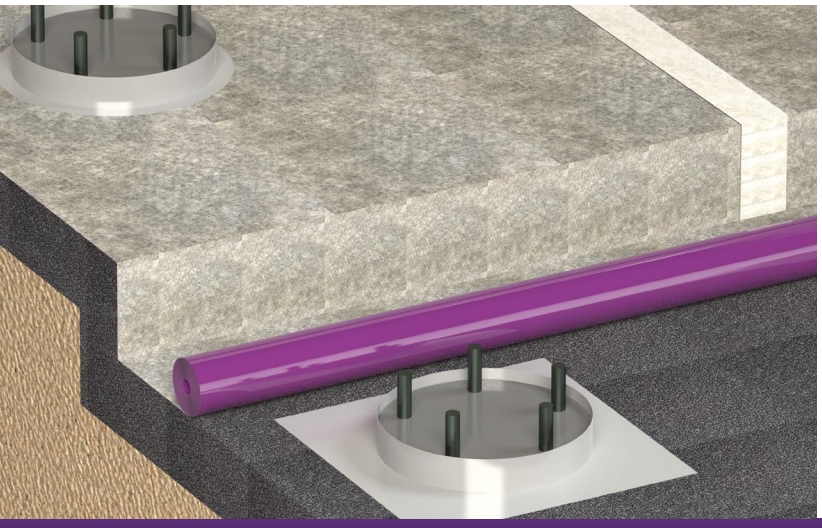
PRE-APPLIED FULLY BONDED WATERPROOFING & GAS MEMBRANE

Coverage - 49.5m²

1.9mm Thickness

Purple Colour

The Rhinoplast Evolution PA pre-applied fully bonded waterproofing gas barrier membrane incorporates a sealing layer of the Evolution BS8485 compliant gas membrane, that is a hydrostatic resistant waterproofing layer, combined with a bonding mechanism layer made up of a heavy-duty virgin polypropylene geotextile providing a fully concrete bonded system.



A NEW GENERATION OF WATERPROOFING

ADVANCED 14 LAYER MEMBRANE

- Specifically developed EVOH layers for use as building protection on construction sites contaminated by Volatile Organic Compounds, Hydrocarbons, and other ground gasses such as Methane, Radon and CO^2

OUTSTANDING GAS RESISTANCE

- Conforms with BS8485:2015+A1:2019 (Table 7)
- Conforms to the specification required of NHBC Amber 1 & 2 applications.
- Suitable for all Characteristic Gas Situations (CS) ground gas regimes

ENSURES FULLY BONDED WATERPROOF BARRIER

- Conforms to BS8102:2022
- Designed to mechanically bond to fresh concrete
- Waterproofing barrier Type A
- Impedes lateral migration of water between the membrane and concrete structure
- Membrane bond to concrete is continuous without adhesives, primers, heat or open flames

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Technical Background

The Rhinoplast Evolution PA pre-applied fully bonded waterproofing gas barrier membrane incorporates a sealing layer of the Evolution BS8485 compliant gas membrane that is a hydrostatic resistant waterproofing layer combined with a bonding mechanism layer made up of a heavy-duty virgin polypropylene geotextile providing a fully concrete bonded system.

The membrane is 14 layers and contains 2 layers of gas barrier polymer (EVOH) to offer exceptional performance and prevent the ingress of dangerous gasses and water into buildings. It is manufactured using the latest high specification co-extrusion, multi-layer technology and cannot delaminate. Specifically developed for use as building protection on construction sites contaminated by ground gasses such as Methane, Radon and CO^2, Volatile Organic Compounds and Hydrocarbons. The product is CE compliant to act as a damp-proof membrane (DPM).

Pre-applied waterproofing membranes are applied prior to the concrete pour. The product can be applied in a vertical or horizontal fashion, also known as blindside or underslab application.
Bonded systems are distinguished according to their timeline of installation into pre- and post-applied systems. Pre-applied bonded systems are installed before the concrete works on substrate, formwork and later form a bond with the subsequently placed fresh concrete.

Appplication

- Designed to Integrate with the subsequently placed fresh concrete to give strong mechanical bond effect without adhesive, primers, heat or open flames
- Applied prior to fixing steel reinforcement
- Applied in a vertical and/or horizontal to blindside or under slab applications
- Used to create an integral seal between the concrete and the waterproofing membrane
- Specifically developed for use on construction sites contaminated by Volatile Organic Compounds, Hydrocarbons, and other ground gasses such as Methane, Radon and CO^2

Materials

- Material - PE/EVOH membrane & Non-woven polypropylene geotextile fleece
- Colour – Purple/Grey
- Thickness - 1.9mm
- Roll sizes – 1.65m x 30mtr

Product Features & Benefits

- Ensures a fully bonded waterproofing barrier
- Membrane bond is continuous
- Supplied single-wound to achieve a lay flat surface
- Exceptionally high resistance to ground gas and VOC's
- Used for gas/waterproofing and tanking of underground structures
- Impedes lateral migration of water between the membrane and concrete structure
- Waterproofing barrier Type A
- Easily folded on site
- CE marked for water proofing to harmonised standard EN 13967:2012+A1:2017
- Conforms to BS8102:2012
- Conforms with BS8485:2015+A1:2019 (Table 7)
- Incorporates guidance outlined in CIRIA C748
- Conforms to the specification required of NHBC Amber 1 & 2 applications.
- Suitable for all Characteristic Gas Situations (CS) ground gas regimes
- Excellent welding characteristics for VOC applications
- Two layers of Ethylene Vinyl Alcohol Co-Polymer (EVOH)
- Advanced 14-layer membrane barrier
- Preformed accessories available
- Taped system for easy cold applied installation

Technical Data

Material Properties			Test Method	Value	
Thickness	Overall		Nominal	1.9mm	
Thickness	Membrane		DIN EN 1849-2	0.4mm	
Material			Polyethylene/ Ethylene Vinyl Alcohol	PE/EVOH	
Thickness	Geotextile		EN ISO 9863/1	1.70mm +-20%	
Material			Non-woven polypropylene geotextile fleece	PP	
Colours			Membrane/fleece	Purple/Grey	
			Joint strip/accessories	Silver	
Width			DIN EN 1848-2	1650mm	
Length			DIN EN 1848-2	30m	
Area/roll			1.65m x 30m	49.5m²	
Mass (combined)			DIN EN 1849-2/ISO 9864	515g.m²	
Packaged roll weight				28.65kg	
Reaction to fire			DIN EN ISO 11925-2/EN 13501-1	E	
Peel resistance (180°peel)			EN ISO 8510-2	49.1 N/50mm	
Water tightness @ 60kPa 24h & 500kPa 72h			DIN EN 1928 – Method B	Watertight	
Resistance to impact			DIN EN 12691 – 350mm drop	Watertight	
Resistance to static loading			DIN EN 12730	20kg (Pass)	
Durability against thermal ageing @ 60kPa			DIN EN 1296/DIN EN1928	Watertight	
Durability against chemicals @ 60kPa			DIN EN 1847/DIN EN 1928	Watertight	
Durability against alkaline environment @ @ 60kPa			DIN EN 1847/DIN EN 1928	Watertight	
Durability against sulphurous acid @ 60kPa			DIN EN 1847/DIN EN 1928	Watertight	
Compatibility with bitumen @ 60kPa			DIN EN 1548/DIN EN 1928	Watertight	
3mm Puncture Force			ASTM D2582	36.9 N	
3mm Puncture Deflection			ASTM D2582	3.63mm	
Tensile strength	MD	CMD	DIN EN 12311-2/DIN EN ISO 291-23/50-2	665 N/50mm	749 N/50mm
Elongation	MD	CMD	DIN EN12311-2/DIN EN ISO 291-23/50-2	748%	710%
Tear resistance -nail shank	MD	CMD	DIN EN 12310-1/DIN EN ISO 291-23/50-2	678 N	671 N
Shear resistance of tapped joint seam – 50mm double sided / 75mm Reinforced fleece single sided			DIN EN 12317-2	228 N/50mm	166 N/50mm
Water vapour permeability			DIN EN 1931 – Method B	0.054g/m²/day	
Oxygen transmission rate			ASTM F 1927, 20°C 60% RH	<0.75cc/m²/day	
Methane permeability			ISO 15105-1	≤0.09 ml/m²/day.atm	
Radon permeability			SP Method 3873	$<1.2 \cdot 10^{-12}$ m²/s	
Carbon Dioxide transmission			ISO 15105-1	0.37ml/m²·d·atm	

C748:2014 - Permeation vapour tests – 100% concentration

Material Properties	Test Method	Value
Benzene transmission rate	EN ISO 15105-2	≤0.0001 ml/m²·d
Toluene transmission rate	EN ISO 15105-2	≤0.0001 ml/m²·d
Ethyl Benzene transmission rate	EN ISO 15105-2	≤0.0002 ml/m²·d
Xylene transmission rate	EN ISO 15105-2	≤0.0001 ml/m²·d
Hexane transmission rate	EN ISO 15105-2	≤0.0001 ml/m²·d
Tetrachloroethene (PCE) transmission rate	EN ISO 15105-2	≤0.0001 ml/m²·d
Trichloroethylene (TCE) transmission rate	EN ISO 15105-2	>1.29 ml/m²·d
Naphthalene transmission rate	EN ISO 15105-2	≤0.0001 ml/m²·d

C748:2014 – Chemical immersion resistance testing

Material Properties	Test Method	Tensile Strength retained		Result
		MD	CMD	
Benzene	EN ISO 14414	101%	97%	Pass
Toluene	EN ISO 14414	103%	100%	Pass
Ethyl Benzene	EN ISO 14414	104%	102%	Pass
Xylene	EN ISO 14414	104%	98%	Pass
Hexane	EN ISO 14414	104%	100%	Pass
Tetrachloroethene (PCE)	EN ISO 14414	105%	102%	Pass
Trichloroethylene (TCE)	EN ISO 14414	102%	99%	Pass
Naphthalene	EN ISO 14414	102%	98%	Pass
Sulphuric Acid (10% solution)	EN ISO 14414 A	91%	101%	Pass
Calcium Hydroxide	EN ISO 14414 B	94%	101%	Pass
Solvents (35% Diesel, 35% Paraffin, 30% Oil	EN ISO 14414 C	102%	97%	Pass
Synthetic Leachate (Acids, Chlorides, Sulphates & Phosphates)	EN ISO 14414 D	104%	102%	Pass

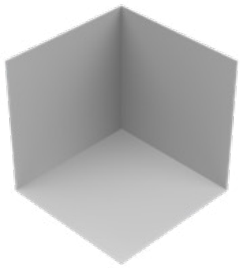
Product Range Accessories

- Our Technical Department is available to advise on individual projects and to prepare or assist in the preparation of schedules and issue drawings.

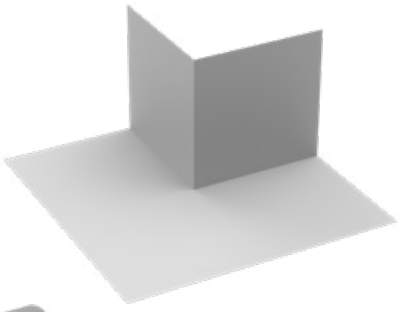
Description	Roll width	Length	Thickness	M²/roll
Pre-Applied fully bonded gas barrier	1.65m	30m	1.9mm	49.5
Pre-Applied edge strip	412mm	20m	0.4mm	8.24
Pre-Applied reinforced fleece tape	100mm	10m		
LT Jointstrip double sided tape	50mm	15m		
Gas Resistant Detail Strip	300mm	20m		
	Size variation - Diameter			
Pre-Applied top hat pipe collar	Ø110mm	Ø135mm	Ø160mm	
	Length	Width	Depth	
Pre-Applied flanged corner 90 degree	200mm	200mm	200mm	
Pre-Applied boxed corner 90 degree	200mm	200mm	200mm	
Pre-Applied joist liners, 100mm flange	tbc	tbc	tbc	
Pre-Applied pile head collars	various sizes Ø			

- Pre Applied corners units – for use to return corners and reduce risk of unsealed edges.

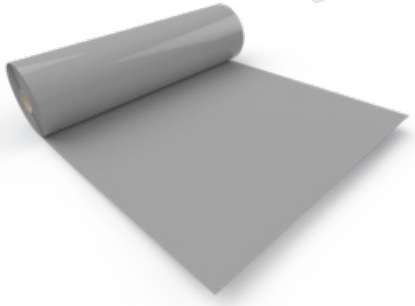
Boxed Corner



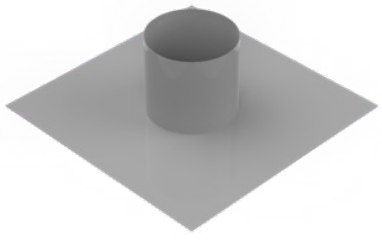
Flanged Corner



- Pre-Applied edge strip

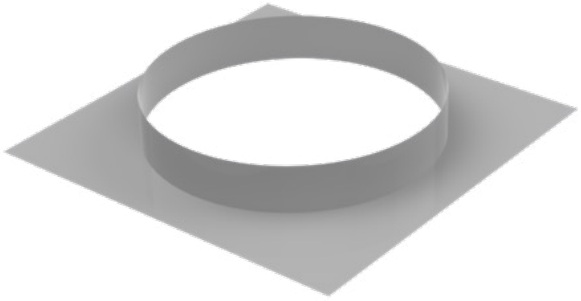


- Pre-Applied top hat pipe collar

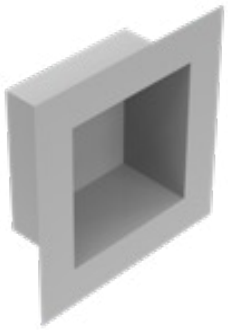


Product Range Accessories

- Pre-Applied pile head collars - various sizes Ø



- Pre-Applied joist liners, 100mm flange x various sizes LxWxD



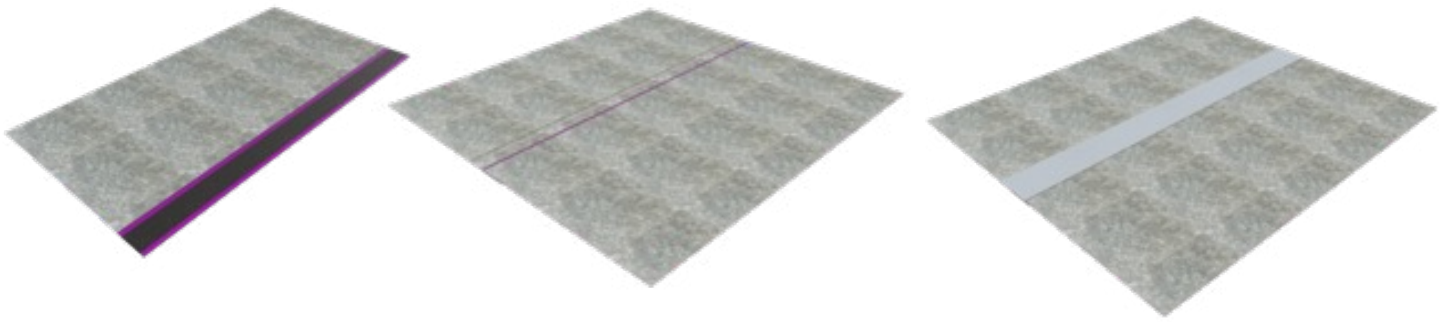
- LT Joinstrip double sided tape - for sealing lapped joints

- Pre-Applied reinforced fleece tape – overlap tape to protect fleeced joint seal

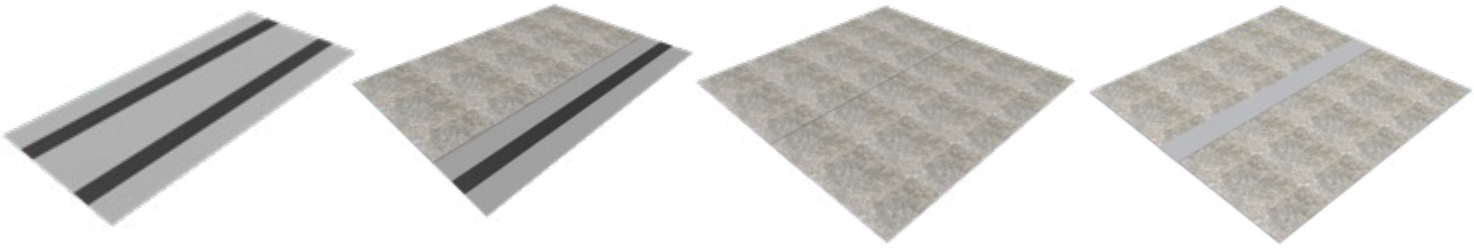
- Gas resistant detail strip – option for pre applied edge strip when taping/ not welding to give full secure seal when no selvedge to seal tape.

Installation Guide

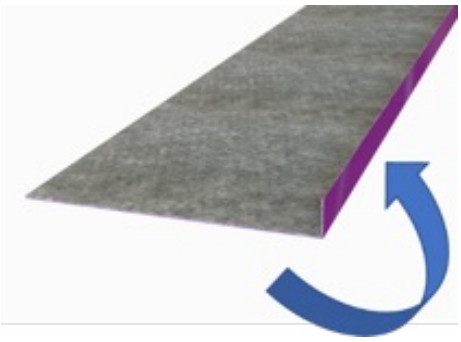
- Prior to installation the application surface needs to be cleaned from sharpe and protruding objects to reduce risk of damage, for some applications soft sand blinding may be required.
- The product to be rolled out with the grey textile fleece surface laid to receive the concrete when poured.
- All lap joints to be completed as works proceed using selvedge on roll or by forming lap edges with additional edge strip.
- For VOC applications we recommend that heat welding to lap joints is carried out by construction skills NVQ L2 qualified installer or equivalent trained.
- For taping apply double sided tape to selvedge and then overlap membrane to seal.



- Additional over taping required to joint, applied over geotextile surface with reinforced fleece tape.



- Vertical and horizontal edges can easily be formed by folding the pre applied membrane or by using additional edge strip.



- Junctions and service penetrations can be formed with accessories, including corners, top hats, and pile collars.