ATAL GROUNDSIL VOC MEMBRANE
TECHNICAL DATASHEET

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ATAL GROUNDSIL VOC MEMBRANE

DESCRIPTION

Atal Groundsil VOC Membrane is a specially engineered tri-polymer that provides a highly effective barrier against Radon, CO_2, Methane, Hydrocarbon gases and VOC's.

The membrane is produced from a uniquely formulated blend of virgin polymers to provide outstanding chemical and vapour resistance while remaining highly flexible to ease of installation. Atal Groundsil VOC membrane is ideally suited for sites formerly used as coalfield, landfill, or industrial sites that have previously contained volatile liquids, petrol stations.

As part of the extensive testing atal Groundsil VOC Membrane has undergone, it was subjected to accelerated life immersion tests. These tests, EN 14414 and EN 14415, require the membrane to be subjected to a range of challenging chemicals at 50 degrees C and then retested to establish any effects the chemicals have had on the integrity of the membrane.

PHYSICAL PROPERTIES

Physical description

- Thickness - 1000 micron
- Length - 20m
- Width - 1.3m
- Colour - Black

ADVANTAGES

- Excellent resistance to chemicals and hydrocarbon gases
- Complies to BS 8485:2015
- Very high puncture and tear resistance
- Suitable for welding or taping

STORAGE

It is not recommended that the membrane is exposed to sunlight for long periods. If being stored for a lengthy period, the rolls should be stored under cover, out of direct sunlight on a flat level surface.

PREPARATION

Ensure surfaces are smooth, free from voids, projections and mortar deposits.

Ensure surfaces are dry and free from dust and frost.

INSTALLATION

Roll out with the embossed surface uppermost, ensuring that it is properly aligned. All laps and junctions must be overlapped by 150 mm. When the membrane is laid below the concrete slab, it should be loose-laid to accommodate any small movements.

All surfaces must be dried thoroughly before joining.

Joints can be sealed using Atal Hydrocarbon DS Tape. However, check the chemical compatibility. Where doubt exists over the suitability of butyl tape, weld the membrane using hot air or wedge welding equipment. A strip of the tape is unrolled over the membrane with its nearest edge 50 mm from the membrane edge. Remove the protective paper from Atal Hydrocarbon DS Tape before rolling an adjacent run of the membrane. Secure laps with Atal Hydrocarbon SS Tape when taping. When welding, the lap width must be a minimum of 40 mm.

All service penetrations and direction changes should be properly detailed using Atal Premsil GMA or preformed top hats as per the manufactures instruction. Service ducts should be vented to prevent the possibility of gas accumulating in confined spaces.

The continuity of the gas protection must extend over the footprint of the building, and the gas membrane must be sealed to a gas-resistant damp-proof course.

The membrane should be covered by a screed or other protective layer as soon as possible after installation.

The membrane installation should be subject to third-party independent validation, in accordance with BS 8485 : 2015.

REPAIR

Any damage to the product must be repaired using a patch of the membrane, and laps welded or sealed with double-sidedd tape and secured with the butyl tape. All patched areas must extend a minimum of 150 mm from the damaged area. If required by the local authority, repair work should be confirmed by an independent validation report, as all gas membrane installation should be subject to third-party validation in accordance with BS 8485 : 2015.

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Name	Test	Unit	Result
Length	EN 1848-2	m	20
Width	EN 1848-2	m	1.3
Thickness	EN 1848-2	mm	1.0
Tensile Strength MD	EN EN 12311	N/mm²	24
Tensile Strength CD	EN EN 12311	N/mm²	22
Elongation MD	EN EN 12311	%	398
Elongation CD	EN EN 12311	%	446
Joint Strength	EN 12317-2	N	520
Watertightness 2kPA	EN 1928	-	Pass
Resistance to impact	EN 12691	mm	660
Resistance to static loading	EN 12730	Kg	20
Resistance to nail tear MD	EN 12310-1	N	700
Resistance to tear CD	EN 12310-1	N	750
Durability (heat ageing)	EN 1926	-	Pass
Durability (chemical resistance)	EN 1847	-	Pass
Resistance to low temperature	EN 495-5	-	Pass @ -40
Water vapour permeability	EN 1932	g/m²/day	0.08
Radon permeability		m²/s	9.5×10^{-12}
Methane permeability	ISO 15105-1	ml/m²/day/atm	28
Diesel permeability	ISO 6179	g/m²h	0.004
Petrol permeability	ISO 6179	g/m²h	5.172
Xylene permeability	ISO 6179	g/m²h	4.845
Toluene permeability	ISO 6179	g/m²h	6.695
Chemical Resistance - Acidic	EN 14414-A	-	Pass
Chemical Resistance - Basic	EN 14414-B	-	Pass
Chemical Resistance - Solvents	EN 14414-C	-	Pass
Chemical Resistance – synthetic leachates	EN 14414-D	-	Pass
Resistance to leaching – Hot water	EN 14415-A	-	Pass
Resistance to leaching – Aqueous Alkaline	EN 14415-B	-	Pass
Resistance to leaching – Organic Alcohol	EN 14415-C	-	Pass