Corden EPS Evolution VOC
BS 8485:2015+A1:2019 Compliant
VOC Barrier

CORDEN EPS EVOLUTION VOC

EPS Evolution VOC – Gas and Hydrocarbon Barrier is a multi-layer, polyethylene membrane.

EPS Evolution VOC is specifically designed and manufactured to perform as a Methane, Carbon Dioxide, Radon, Ground Gas, VOC, air & Moisture, and Hydrocarbon protection system.

EPS Evolution VOC complies with the latest codes of practice as published by BRE, CIRIA (C748) and BSI (BS 8485:2015+A1:2019). Suitable for use as Ground Gas/Hydrocarbon protection for NHBC GREEN, AMBER 1, AMBER 2, and RED site characterisations.

Corden EPS Evolution VOC - GROUND GAS and HYDROCARBON BARRIER			
Characteristic	**Test Method**	**Unit**	**EPS Evolution VOC**
Physical Properties			
Thickness	EN 1849-2	mm	0.5
Width	EN 1849-2	M	2
Length	EN 1849-2	M	50
Weight	EN 1849-2	g/m2	500
Hydraulic Properties			
Permeabilty of Liquids	EN 14150	m3/m2/day	1.0 x 10-6
Resistance to water penetration	EN 13967, EN 1928	-	PASS
Watertightness	EN 1928	-	PASS
Mechanical Properties			
Resistance to Static Load	EN 12730 - B	Kg	>20
Tensile Strength (MD)	EN 12311 -1	N/mm2	25
Tensile Strength (CMD)	EN 12311 -1	N/mm2	25
Tensile Elongation (MD)	EN 12311 -1	%	400
Tensile Elongation (CMD)	EN 12311 -1	%	400
Puncture Resistance	EN 12236	kN	2
Resistance to tearing (nail shank)	MD EN 12310 - 1	N	500
Vapour Permeability			
Transmission rate of Benzene	BS EN ISO 15105 - 2	mg/m2/day	2250
Transmission rate of Toluene	BS EN ISO 15105 - 2	mg/m2/day	2370
Transmission rate of Ethyl Benzene	BS EN ISO 15105 - 2	mg/m2/day	400
Transmission rate of Xylene (m,p,o)	BS EN ISO 15105 - 2	mg/m2/day	690
Gas Permeability			
Methane Permeability (WELDED JOINT)	BS EN ISO 15105 - 1	ml/m2/day/atm	1.00
Carbon Dioxide Permeability	BS EN ISO 15105 - 1	ml/m2/day/atm	3.01
Radon Permeability	SP Method 3873	m2/s	3.0 x 10-9
Compliance and Certification			
CE Mark - EN13967:2012			
NHBC Standards Compliant			
BS 8485:2015 Compliant			
CIRIA C748 Compliant			

Corden EPS
www.cordeneps.co.uk
sales@corden-bssp.co.uk
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Chemical Resistance - SULFURIC ACID (10% solution of Sulfuric Acid (H2SO4)) 50° for 56 days	EN 14414 - A	Tensile strength Retained	100%
		Result	PASS
Chemical Resistance - BASIC (Calcium Hydroxide saturated suspension) 50° for 56 days	EN 14414 - B	Tensile strength Retained	100%
		Result	PASS
Chemical Resistance - SOLVENTS (35% Diesel, 35% Paraffin, 30% Oil HD30 (vol) 50° for 56 days	EN 14414 - C	Tensile strength Retained	100%
		Result	PASS
Chemical Resistance - SYNTHETIC LEACHATE (Mixture of 14 acids, chlorides, sulphates and phosphate) 50° for 56 days	EN 14414 - D	Tensile strength Retained	100%
		Result	PASS
Resistance to Leaching - HOT WATER (Deionised water) 50° for 56 days.	EN 14415 - A	Tensile strength Retained	100%
		Result	PASS
Resistance to Leaching - AQUEOUS ALKALINE (Saturated Calcium Hydroxide) 50° for 56 days.	EN 14415 - B	Tensile strength Retained	100%
		Result	PASS
Resistance to Leaching - ORGANIC ALCOHOL (30% methanol, 30% isopropanol, 40% glycol) 50° for 56 days	EN 14415 - C	Tensile strength Retained	100%
		Result	PASS

**Values are Typical, with the exception of Thickness, which is Nominal. Typical indicates the mean value derived from the samples taken for any one test as defined in the BS EN ISO standard - usually the mean of five samples. Nominal is a guide value.*

DESCRIPTION

EPS Evolution VOC Hydrocarbon Barrier is a multi-layer flexible membrane, with a unique core component which is designed and manufactured to provide a barrier to the most aggressive chemicals and to comply with current guidance on Hydrocarbons.

Manufactured using the latest extrusion technology and drawing on our extensive knowledge and expertise in gas protection, we have developed a new membrane suitable in applications that are affected by Hydrocarbons. There is a common misconception that monolithic polyolefin barriers, such as HDPE and LLDPE are effective barriers to resist Hydrocarbons. This is an incorrect assumption, as Hydrocarbons will readily permeate through monolithic polyolefin barriers.

The product is available in roll format, 2.0m x 50m, (other dimensions available on request) in Black and Silver colour.

EPS Evolution VOC Hydrocarbon Barrier offers a safe solution for the protection of buildings and occupiers against all levels of hydrocarbons, methane, carbon dioxide and radon ingress. Typically, these are sites previously used as petrol stations, coalfields landfill sites, contaminated industrial sites, Fracking sites, and heavily contaminated sites. The membrane also acts as a damp-proof membrane. Due to the flexible nature, the EPS Evolution VOC Hydrocarbon Barrier also provides a flexible membrane suitable for various applications unlike rigid HDPE rich membranes. EPS Evolution VOC is designed to withstand the most aggressive environments.

Testing has been completed in accordance with BS 8485:2015+A1:2019 and C748 to determine the permeation rates for Methane, Carbon Dioxide, and a range of VOC's. Immersion testing has also been completed to for Chemical Resistance to EN 14414 and EN 14415.

ISO15105-2 Rate of Permeation (mg/m2/day)	BENZENE	TOLUENE	ETHYL BENZENE	XYLENE (M,P,O)
EPS EVOLUTION VOC	2250	2370	400	690
PURAFLEX	3846	3763	494	767
HDPE (1.0mm)	146626	151725	117912	114672

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EPS Evolution VOC has market leading performance as a Hydrocarbon Barrier and chemical resistant barrier with exceptional resistance to a wide range of pollutants including hydrocarbons, industrial chemicals, toxic waste, natural and radioactive gases; it also acts as a high performance DPM.
Note – there are materials on the market, declaring compliance with BS8485:2015 and C748, with listed test values for a range of challenge chemicals. Be wary of values reported as 'MDV' (manufacturer declared value), and always check the units of measurement against the ISO 15105-2 test. It is unethical and illegal for suppliers of material to mislead end users with falsified information.

HANDLING

Roll weights can be in excess of 20kg and hence appropriate care and equipment is required for unloading and handling.

STORAGE

Rolls of EPS Evolution should be stored on stable/level ground and stacked not more than five rolls high, with no other material stacked on top. The rolls can be stored outdoors when packaged, but should be protected from exposure to UV.

INSTALLATION

EPS Evolution VOC should be installed in accordance with the product installation guidelines, and in accordance with BS 8485:2015.

JOINTING AND SEALING

It is recommended EPS Evolution VOC be heat welded where possible, with welding carried out by competent personnel with suitable qualifications in accordance with best practice, and guidance contained within BS 8485:2015. EPS Evolution VOC should be overlapped by at least 100mm. If taping joints, only suitable tape must be used, ensuring application with a silicone roller to remove trapped air. EPS pre-formed details, or Self-Adhesive Gas Membrane are available for sealing around protuberances.

ACCESSORY PRODUCTS

A wide range of accessories are available for use with the EPS Evolution VOC Barrier.

ADDITIONAL INFORMATION

For additional information or assistance, please contact Corden EPS directly.

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