

SIGMA GPS Defender VOC Barrier

BS 8485-2015 Compliant VOC Barrier



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SIGMA GPS Defender VOC Barrier is an 18-layer high performance co-extruded polymer membrane of extraordinary quality and performance.

SIGMA GPS Defender VOC Barrier is made up of outer layers of both HDPE and LLDPE **incorporating 2 layers** of EVOH (Ethyl Vinyl Alcohol). Some permeation tests have not been able to detect anything passing through this type of membrane.

Due to the nature of the manufacture process, the membrane cannot delaminate as the layers are fused together during production and although multi laminate membranes incorporating an aluminium foil layer are good barriers to VOCs, there is potential for delamination and degradation.

SIGMA GPS Defender VOC Barrier is specifically designed to prevent the ingress of harmful ground gasses and Volatile Organic Compounds (VOCs) into new build structures.

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

SIGMA GPS Defender VOC Barrier is perfectly suited for use in commercial, industrial & housing projects where VOC vapours are present and the need for a highly flexible and robust membrane is required.

SIGMA GPS Defender VOC Barrier - GROUND GAS and VOC BARRIER		
Mass	(g/m ²)	370
Thickness	(mm)	0.4
Colour		SILVER
Roll Size	(Single wound)	1.65 x 61m
Methane gas transmission	BS ISO 15105-1	<40.0 ml/day/m ² /atm
Tensile load at break	(N) machine direction E192561	>166
Tensile load at break	(N) transverse direction E192561	>164
3mm Puncture load at rupture	(N)	>30
WVTR E192561	g/m ² /day Versaperm MkV1 systems	0.314
Weld characteristic		4.2s dwell, 40psi 150oC

Chemical Resistance

Material	Chemical	Permeation coefficient (m ² /s)	Thickness of material (mm)	Source
SIGMA GPS Defender VOC Barrier Co-extruded LLDPE: EVOH: LLDPE	Benzene	1.57E-10 m/s	0.53	McWatters and Rowe (2010)
	Toluene	2.18E-10 m/s		
	ETHYL BENZENE	1.71E-10 m/s		
	XYLENE (M & P)	1.62E-10 m/s		
	O Xylene Permeance	1.53E-10 m/s		

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Installation.

It is recommended GPS Defender VOC Barrier 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. GPS Defender VOC Barrier 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. SIGMA GPS pre-formed details, or Self-Adhesive Gas Membrane are available for sealing around protuberances.

We would strongly recommend the use of specialist installers to weld the system on site.

When installing SIGMA GPS Defender VOC Barrier to BS8485:2015 the installed system should be independently validated in line with CIRIA C735.

SIGMA GPS Defender VOC can recommend NVQ qualified installers and independent validators.

ACCESSORY PRODUCTS

A wide range of accessories are available for use with the SIGMA GPS Defender VOC Barrier.

ADDITIONAL INFORMATION

For additional information or assistance, please contact SIGMA GPS directly.

