

ITP POWERBASE[®] GAS BARRIERS

EFFECTIVE PROTECTION AGAINST CO₂ METHANE & RADON

protecting what matters

TECHNICAL DATA SHEET

Revision 6.4



Description

POWERBASE is a comprehensive range of geosynthetic membranes for protection against harmful naturally occurring gases and brownfield sites contaminated by heavy metals.

Application

POWERBASE membranes are installed under foundations to prevent the ingress of harmful vapours and gases into buildings.

- POWERBASE LOW PERM for low concentrations of
 - Radon
 - Methane
 - CO₂
- POWERBASE MULTIGAS 300 & 500 incorporates an aluminium foil barrier layer for high concentrations of
 - Radon
 - Methane
 - CO₂

They are versatile and used for environmental protection, acting as a barrier to contain wastewater and to prevent contamination of surrounding areas, water tables and watercourses.

Installation

POWERBASE membranes are joined by conventional thermal welding to provide overlapped seams for optimum barrier integrity.

Alternatively, the membranes can be overlapped and joined using single and double-sided POWERBOND adhesive tapes.

Design Guidance and References:

- BS 8485: Code of practice for remediation from ground gas in affected developments
- BRE BR 211: Radon. Guidance on protective measures for new buildings.
- BRE BR 414: Protective measures for housing on gas-contaminated land
- NHBC Report: Guidance on Methane and Carbon Dioxide
- EN 13967: Flexible sheets for waterproofing.

Hydrocarbon & VOC protection

For Hydrocarbon and VOC contaminated soils, please refer to POWERBASE VOC technical data sheet.

Major Projects



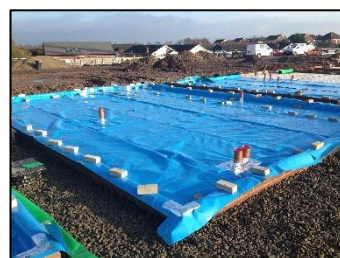
LOW PERM RADON



MULTIGAS 300



MULTIGAS 500



HYDROCARBON VOC

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Test		Test Method	POWERBASE Radon, Methane & CO ₂ PROTECTION			Unit
			LOWPERM	MULTIGAS 300	MULTIGAS 500	
Mechanical	Colour		Yellow	Green/Silver	Green/Silver	
	Thickness	EN 1849-2	400	400	500	
	Unit Weight	EN 1849-2	372	270	380	gsm
	Tensile strength MD XD	EN 12311-1	22.4 21.1	333 325	386 377	N/50mm
	Elongation MD XD	EN 12311-1	521 631	365 602	543 637	%
	Nail tear MD XD	EN 12310-1	327 332	279 279	329 360	Newtons
	Impact resistance	EN 12691-B	350	175	>175	mm
	Puncture resistance (CBR)	EN 12236	1.034	0.700	0.895	kN
	Static load resistance	EN 12730	20	20	>20	kg
Temperature			-30 to +70	-30 to +70	-30 to +70	°C
Performance	BS 8485		NA	Compliant*	Compliant	
	Hydraulic Resistance	BS EN 1928	>2.0	>2.0	>2.0	kPa
	WVTR	ISO 15106-3	0.12	0.001	0.001	g.m ⁻² d ⁻¹
	CO ₂ Permeability	ISO 15105-1	1022	0.19	0.19	ml.m ⁻² d ⁻¹
	Methane Permeability	ISO 15105-1	217	0.14	0.14	ml.m ⁻² d ⁻¹
	Radon Diffusion Coef. (D)	ISO/TS 11665-13	6.4 x 10 ⁻¹²	<1.5 x 10 ⁻¹⁴	<1.5 x 10 ⁻¹⁴	m ² .s ⁻¹
Radon Resistance (R _{Rn})			61.4	>60,945	>60,945	Ms/m
*except for weight						
Roll Size			4.0 x 20	2.0 x 50	2.0 x 50	m
Roll Weight			31	28	38	kg
Pallet Qty			30	33	33	rolls

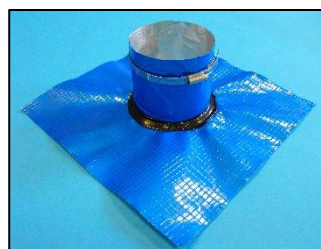
Other System Elements



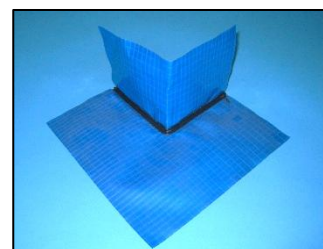
POWERBOND
jointing tapes



POWERBOND
sealing tapes



POWERBASE
Top Hats



POWERBASE
Corners

Test Results are obtained under laboratory conditions on new material and not under actual usage conditions. Test results only relate to the sample tested. Tolerances +/- 20%. No warranties or assurances of reliability, suitability or fitness for a particular purpose of specimens or data are offered. Assessment of suitability of such material and data for intended use is the sole responsibility of the customer.

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