PRODUCT DATA SHEET

Pro M1

Description

Pro M1 is a flexible, loose laid ground gas barrier membrane made from low-density polythene with polypropylene reinforcement grid and aluminium foil core layer for the protection against methane, carbon dioxide, radon, ground gas, air and moisture.

Pro M1 is a multi-layer, low density polyethylene membrane with reinforced polypropylene reinforcing grid. This specifically designed membrane is suitable to perform as a methane, carbon dioxide, radon, ground gas, air and moisture protection system.

Pro M1 is sufficiently resistant to the ingress of harmful gases into a building. Pro M1 can be used on any site where carbon dioxide, methane or radon is present up to and including CIRIA 665 Situation 6.

Features

- High quality, reinforced membrane
- Tough, durable design
- Conforms with latest codes of practice as published by BRE, CIRIA and BSI
- Heat welded or taped, with jointing carried out by competent personnel with suitable qualifications in accordance with best practice
- Suitable for new build and refurbishment projects
- Low permeability to hydrocarbon and VOC vapours, carbon dioxide, methane and radon

Specification

- BS 8485:2015+A1:2019 Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings
- NBS Specification J40/145 Loose laid weldable polyethylene gas retardant damp proofing
- NBS Specification J40/140 Loose laid plastics or rubber sheet gas retardant damp proofing
- NBS Specification D21/350 Gas retardant membrane

Product Details

DMS 402

Storage

- Rolls of Pro M1 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.
- Always store and transport in a secure position.

Packaging/Handling

- Roll weights can be more than 20kg and appropriate care and equipment is required for unloading and handling.

Associated Products

- Gas Tape 50
- Gas Over Tape 150
- Detailing Strip
- Pro Void Vent

Technical Data

General Information	
Colour	Black
Material	Polypropylene Aluminium
Shape	Rectangular - supplied in roll form
Size	2x50m x 0.6mm
Warranty	60 Year (minimum)
Uniclass 2015	Pr_25_57_65
CAWS	J40/35 Loose laid plastics or rubber gas retardant damp proofing D21/38 Gas-retardant membranes J40/140 Loose laid plastics or rubber sheet gas retardant damp proofing J40/145 Loose laid weldable polyethylene gas retardant damp proofing D21/350 Gas retardant membrane
Product Range	Gas Barriers
Material	Low-density polyethylene (PE-LD)
Purpose	Gas Retardance
Standard	To BS 8485:2015+A12019

Performance Characteristics	
Tensile Strength	480N/50mm
Tear Resistance	330N, 400N
Elongation to break	20%
Resistance to underground gases	Methane - 0.09 ml/m²/day atm Carbon Dioxide - 0.09 ml/m²/day/atm Radon - 8 x 10(-15)
Third party certification	British Board of Agrément (BBA) Certificate No. 12/4912 CE Mark - EN 13967
Form	Polypropylene reinforcing grid with aluminium foil
Recycled content	0%

Physical Properties

Characteristics	Test Method	Unit
Thickness	EN 1849-2	0.6mm
Thickness - between Scrim	BS EN ISO 9863-1:2016	0.4mm
Width	EN 1849-2	Various (2m minimum)
Length	EN 1849-2	Various (50m minimum)
Weight	EN 1849-2	370G/M²

Hydraulic Properties

Characteristics	Test Method	Unit
Water Column	EN 20811	>300
Resistance to Water Penetration	EN 18967, EN 1928	PASS
Water Tightness	EN 1296, EN 1367, EN 1928	PASS

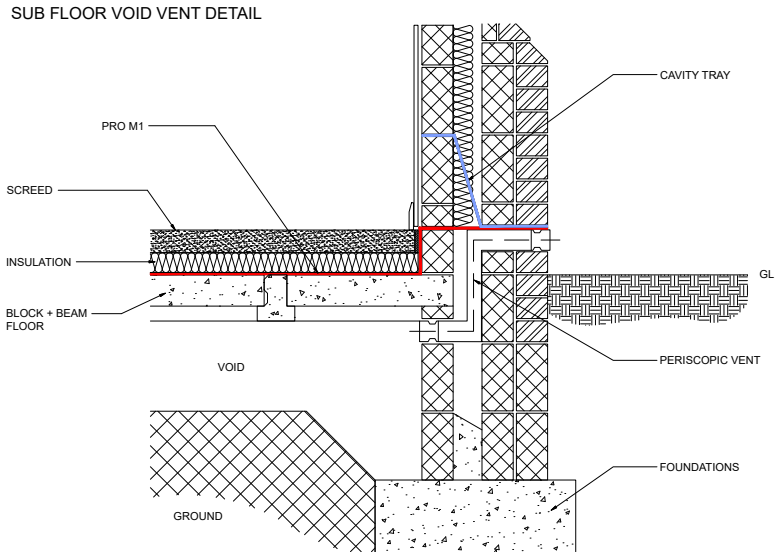
Mechanical Properties

Characteristics	Test Method	Unit
Resistance to Static Load	EN 12730-B	20kg
Tensile Strength (MD)	EN 12311-1	600N/50mm
Tensile Strength (CMD)	EN 12311-1	480N/50mm
Tensile Elongation (MD)	EN 12310-1	20%
Tensile Elongation (CMD)	EN 12310-1	20%
Puncture Resistance	EN 12236	1.25kN
Resistance to Tearing (Nail Shank) MD	EN 12310-1	400N
Resistance to Tearing (Nail Shank) CMD	EN 12310-1	400N

Delta Pro M1

Feature	Characteristics	Test Method	Pro M1
Physical Properties	Thickness Thickness - Between Scrim Width Length Weight	EN 1849-2 BS EN ISO 9863-1:2016 EN 1849-2 EN 1849-2 EN 1849-2	0.6mm 0.4mm Various m Various m 370g/m²
Hydraulic Press	Water Column Resistance to Water Penetration Water Tightness	EN 20811 EN 13967, EN 1928 EN 11296, EN 1367, EN 1928	>300 PASS PASS
Mechanical Properties	Resistance to Static Load Tensile Strength (MD) Tensile Strength (CMD) Tensile Elongation (MD) Tensile Elongation (CMD) Puncture Resistance Resistance to Tearing (Nail Shank) MD Resistance to Tearing (Nail Shank) CMD	EN -12730-B EN 12311-1 EN 12311-1 EN 12310-1 EN 12310-1 EN 12236 EN 12310-1 EN 12310-1	20kg 600N/50mm 480N/50mm 20% 20% 1.25kN 330N 400N
Durability and Chemical Resistance	Transmission Rate of Volatile Liquids - Diesel Transmission Rate of Volatile Liquids - Xylene Transmission Rate of Volatile Liquids - Toluene Transmission Rate of Volatile Liquids - Petrol	ISO 6179:2010 (B) ISO 6179:2010 (B) ISO 6179:2010 (B) ISO 6179:2010 (B)	0.246g/m²/h 0.571g/m²/h 0.583g/m²/h 0.135g/m²/h
Gas Permeability	Methane Permeability Carbon Dioxide Permeability Radon Permeability	BS EN ISO 15105-1 BS EN ISO 15105-1 K124/02/95	<0.09ml/m²/day/atm <0.09ml/m²/day/atm 8.0 x 10^{15} m²/s
Compliance and Certification	CE Mark - EN13967:2012 (A1 2017) NHBC Standards Compliant Conforms to BS 8485:2015 + A1 2019 BBA Certified - Certificate No. 20/5728		

Technical Drawing - DGS-333-1



Installation

It is essential that ground gas protection systems are installed correctly, meeting all applicable building standards and regulations Installation of ground gas protection systems should be carried out by technicians who hold a valid NVQ Qualification in ground gas installation. All ground gas protection systems should be verified by an independent verification company and not the membrane manufacturer, installer or client. All joints should be heat welded where practical and possible.

Other Information

All data and information contained in these Product/Technical Data Sheets is up-to-date and correct as at the date of issue. The information given is suggested as guidance and should only be used for evaluating your specific application. Delta Membrane Systems Limited cannot control or anticipate the conditions under which this product may be used, each user should review the information in specific context of the planned use. The information contained in these Product/Technical Data Sheets should not be considered a warranty, expressed, or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose. In no event shall Delta Membrane Systems Limited be liable for any incidental or consequential damages resulting from the use, misuse, or inability to use the product. This exclusion applies regardless of whether such damages are sought based on breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory. When in doubt, contact Delta's Technical Team on 01992 523 523.