

# HYDROPRUFE PVC-M

## High Performance PVC Membrane

### DESCRIPTION

HYDROPRUFE PVC-M is a flexible 2mm thick polyvinyl chloride (PVC-P) membrane which is available with a signal layer designed to assist with the integrity of the installed system. It is designed as the primary component of the Premcrete compartmentalised waterproofing system for deep basement and tunnel construction.

### USES

HYDROPRUFE PVC-M is a loose-laid waterproof membrane which is easily installed to provide a continuous barrier to water to protect deep underground structures. It is particularly suitable where it is important to achieve a maintainable Type A Barrier Protection in accordance with BS 8102:2022 and meets the requirements of the Specification for tunnelling, 3<sup>rd</sup> Edition BTS and ICE.

Typical applications are as follows:

- Deep basement structures
- Tunnels
- Culverts
- Civil engineering structures
- Reservoirs

### ADVANTAGES

- Manufactured from virgin polymer
- Highly flexible and configurable
- Excellent resistance to aging
- Designed for heat welding using hot air gun or semi-automatic welding machine
- Root resistance to EN 14416
- High tensile strength
- High resistance to dynamic impact

### DURABILITY

HYDROPRUFE PVC-M has a lifetime expectancy in line with the design life of the structure into which it is incorporated.

Structural Waterproofing | Gas Protection | Concrete Repair | Technical Grouts | Joint Sealants | Protective Coatings | Admixtures

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### TECHNICAL PROPERTIES

Property	Specification
Thickness EN 1849-2	2mm
Tensile Strength EN ISO 527	≥ 16 N/mm <sup>2</sup>
Elongation EN ISO 527	≥ 300%
Tear Resistance DIN 53363 EN ISO 34-1	≥ 80 N/mm ≥ 40 kN/m
Resistance to Impact DIN 16726	>1100mm
Puncture Resistance CBR EN 12236	>2.4 kN
Cold folding Resistance EN 495-5	No cracks at -20°C
Resistance to water pressure DIN 16726	10 bar / 10hrs 6 bar / 72hrs
Behaviour after storage in hot water (8 months/50°C) SIA.V.280 Mass Variation Variation of elongation at break Variation of tensile strength Folding at -20°C	≤ 4% ≤ 10% ≤ 10% No Cracks
Behaviour after long-term aging (7 days/80°C) DIN 16726 General Appearance Dimensional Stability L&T Variation of elongation at break L&T Variation of tensile strength L&T Folding at -20°C	No blisters ≤ 3% < ±20% < ±10% No Cracks
Behaviour after storage in hot water and alkaline solutions (90 days/23°C) Methods A&B EN 14415 Variation of elongation at break Variation of tensile strength Folding at -20°C	< ±20% < ±20% No Cracks
Root Resistance EN 14416	Pass
Oxidation Resistance EN 14575	Pass
Behaviour in Fire B2 ON B 3800/1 SIA 280 DIN 4102 EN ISO 11925	B2 IV.2 B2 Class E

## APPLICATION

**HYDROPRUFE PVC-M is to be installed by specialised applicators only.**

**Surface Preparation:** The substrate should be well compacted hardcore or blinded with lean-mix concrete with surface free from excessive undulation or sharp projections which may puncture the membrane. Irregularities in the surface should be repaired with a suitable PREMCRETE repair mortar. If the membrane is to be installed to concrete foundation piles, then the piles should back-blinded with a lean-mix concrete.

**Application to horizontal surfaces:** HYDROPRUFE PVC-M should be installed onto a layer of HYDROPRUFE FP500 geotextile to provide a consistent substrate free from any protrusions that may affect the integrity of the membrane. The signal layer should be face-down whilst installing. Adjacent sheets should be lapped by 100mm sufficient to enable a 50mm wide weld.

Once the membrane has been installed then HYDROBAR PVC should be welded to the membrane in the desired configuration to produce a fully compartmentalised system. The HYDROPRUFE NIPPLE should be welded to the surface of the membrane and the HYDROSTOP RI be installed within each zone and attached to a HYDROPRUFE CONTROL PORT and extended to the surface of the concrete to allow injection at a later date.

**Application to vertical surfaces:** If the membrane is to be fixed to an existing vertical surface (eg diaphragm wall) then HYDROPRUFE FP500 should be fixed to the substrate before attaching HYDROPRUFE FIXING DISC to the substrate using a suitable nail at 1m centres. HYDROPRUFE PVC-M should then be welded to the fixing disc progressively as it is installed. If HYDROPRUFE PVC-M is to be used in a cut-and-cover tunnel construction, then HYDROBAR PVC and HYDROSTOP RI should be fixed to the shutter in the correct configuration (compartments not exceeding 100 m<sup>2</sup>). Once the shuttering has been struck then the HYDROPRUFE PVC-M should be progressively welded to the installed HYDROPRUFE PVC-M.

**Post-application to roof structures:** Concrete should be trowelled to a flat smooth surface. To produce the compartmentalization HYDROPRUFE PA TAPE should then be bonded to the prepared concrete using Eponite EP adhesive in the designed configuration. HYDROPRUFE PVC-M should then be installed and welded progressively to the HYDROPRUFE PA TAPE. Typically, the roof structure will be protected using HYDROFLOW HM8 as a drainage system.

## ANCILLARY PRODUCTS

HYDROPRUFE FP500 2 X 50m  
HYDROPRUFE CONTROL PORT pack of 10  
HYDROPRUFE NIPPLE pack of 50  
HYDROBAR PVC REARSTOP 200mm x 25m, 240mm x 25M  
HYDROSTOP RI 19mm x 100m / 11mm x 100m  
HYDROPRUFE FIXING DISC pack of 20  
HYDROPRUFE PA TAPE 150mm x 20M  
EPONITE EP 5kg  
HYDROPRUFE FIXING PLATE 150mm x 2M  
HYDROFLOW HM8 2 x 20m  
HYDROFLOW HM25 0.9 x 50m

## PACKAGING & COVERAGE

**Pack Size:** 2.15m x 25m roll

## STORAGE & SHELF LIFE

HYDROPRUFE PVC-M should be kept in clean dry conditions at temperatures between 5°C and 30°C.

## HEALTH & SAFETY

See separate material safety datasheet.