



## HIND HYDROSHIELD PVC

### PRODUCT DATA SHEET

#### PVC SHEET WATERPROOFING MEMBRANE FOR UNDERGROUND STRUCTURES

##### DESCRIPTION

**Hind Hydroshield PVC** is a synthetic, flexible, single layer, sheet waterproofing membrane made of PVC (Poly vinyl chloride) and manufactured with twin coloured co-extrusion technology.

##### AREAS OF APPLICATION

**Hind Hydroshield PVC** can be applied in the following areas:

- Basement.
- Railway & metro tunnels.
- Subway and UG metro project.
- Cut and cover tunnels.
- Caverns.
- Other underground civil structures.

##### FEATURES AND BENEFITS

- Superior mechanical characteristics.
- Single layer shows damage and aids visual inspection on-site.
- High mechanical resistance elasticity.
- Long life expectancy.
- Resistant to washout action.
- Resistant to root penetration.
- Resistance to bursting at high water pressure.

##### APPLICATION

###### APPLICATION INSTRUCTIONS

**In-situ concrete:** Steel-trowel finished, clean, sound and free of standing/running water, homogeneous, free from oils and grease, dust and loose or friable particles.

**Shotcrete:** The profile of the shotcrete surface must not exceed a ratio of length to depth of 10:1 and its min. radius must be 20 cm. The shotcrete surface must not contain broken aggregates. Any leaks shall be sealed with waterproof plugging mortar, or drained with a Drain board system. Where necessary to achieve the desired profile/surface, apply a fine sprayed concrete layer on the shotcrete surface with a min. thickness of 3-5 cm and aggregate diameter not exceeding 8 mm. Steel (girders, reinforcement mesh, anchors, etc.) must also be covered with a minimum of 4 cm fine sprayed concrete. The shotcrete surface must be clean (no loose stones, nails, wires, etc.). A polypropylene geotextile ( $\geq 350$  g/m<sup>2</sup>) or a compatible drainage layer must also be installed prior to the **Hind Hydroshield PVC** membrane installation. For detailed information regarding system structure please refer to the method statement.

###### METHOD OF APPLICATION

**Hind Hydroshield PVC** membrane is to be installed by laying loose and mechanically fastened, or loose laid and ballasted as appropriate in accordance with the method Statement for sheet waterproofing membrane installations (available separately on request). The jointing faces must be dry and free from contaminations. For contaminated/soiled surfaces, follow the instructions for cleaning and preparation etc. in the method Statement. All membrane overlaps must be heat welded using hand welding guns and pressure rollers or automatic heat welding

machines, with individually adjustable and electronically controlled welding temperatures. Welding parameters, such as speed and temperature must be established with trials on site, prior to any welding works. The execution of T-joints demands particular preparation of the weld area. In the previously fabricated weld area the overlaps must be chamfered carefully. For detailed information regarding system structure please refer to the method statement.

### IMPORTANT CONSIDERATIONS

Installation works must only be carried out by trained contractors, experienced in the waterproof lining of tunnels and belowground structures. Particular precautions must be taken for installation in wet conditions, at temperatures below +5°C, and when the relative air humidity (RH) is more than 80 %. The effectiveness of these measures must be proven. Fresh air ventilation must always be ensured, especially when working (welding) in closed rooms and in accordance with all relevant local regulations. The membrane is not resistant to permanent contact with bitumen, and some types of plastics other than PVC or Hindcon approved system components. For use over or adjacent to these materials, a separation layer of polypropylene geotextile ( $\geq 150 \text{ g/m}^2$ ) is required. The membrane is not UV stabilized and cannot be installed on structures permanently exposed to sunlight and weathering.

### TECHNICAL INFORMATION

PROPERTIES	TYPICAL VALUE	TEST METHOD
Thickness	2.0mm $\pm$ 5.0%	DIN 53370
Tensile Strength (Both Directions)	min 15.0 N/mm <sup>2</sup>	DIN 53455
Elongation at Break (Both Directions)	min 250%	DIN 53454
Compressive Strength At 20% Strain	min 2.5 N/mm <sup>2</sup>	DIN 53455
Dimensional Stability After Accelerating Aging	< $\pm$ 2.0%	DIN 16726

#### Material Characteristics during and after storage at 80 °C

General Appearance	No Blisters	DIN 16726
Dimensional Stability (Change)-Long	< $\pm$ 3.0%	DIN 16726
Dimensional Stability (Change)-Trans	< $\pm$ 10.0%	DIN 16726
Tensile Strength (Change)-Long	< $\pm$ 10.0%	DIN 16726
Tensile Strength (Change)-Trans	< $\pm$ 10.0%	DIN 16726
Elongation Variation at Break –Long	< $\pm$ 10.0%	DIN 16726
Elongation Variation at Break -Trans	< $\pm$ 10.0%	DIN 16726
Soldering at Temperature of -20°C	No Fissures	DIN 16726
Behavior When Subjected to Hydrostatic Pressure	Waterproof at 10 Bar for 10 hrs.	DIN 16726
Puncture Resistance/ Behavior During Perforation Test	Perforation test at fall height of 750 mm.	DIN 50014
Shear Resistance	100 N/mm min	DIN 53363
Shear Strength of Splice with bitumen	100N/ 50mm min	DIN 16726
Water Absorption	1% max	DIN 53495
Root Resistance	No penetration	UNI CEN/TS 14416
Microbial Resistance	Confirm	BS EN 12225
Fire Rating	E	BS EN ISO 11925-2

### PACKING

2.2 m x 20 m/ 1 m x 20 m @ the thickness of 1.5 mm/2 mm

## SHELF LIFE

Should be installed within **48 months** if stored as per the recommendations in a covered and secured storage space.

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### Note:

- **Hindcon Chemicals** maintains a team of technically trained professionals to provide full support to your problems in construction, and recommend the correct product to suite your specific requirements. Our authorized applicators can attend your site for application of the products.
- The content of the Technical datasheet are for general information and guideline. The result shown here are generated from our laboratory or from our site experiences.
- Quality of our products are maintained as per ISO9001:2008 recommendations and continuous researches. The behavior can change as per the prevailing conditions at the time of applications.
- Since **HINDCON CHEMICALS LIMITED** has no control over the use to which the users may put the material, it does not claim or warrant that in the user's particular circumstances, the result that the user will obtain from the product will be the same as those described in this communication or that the user will find the information or recommendations complete, accurate or useful. The client must test and ascertain the safety and fitness for the product for use.
- The right to change the properties of the products is reserved with us. The proprietary rights of third parties must be observed. All orders are accepted subject to the terms of sale and delivery. Users must always refer to the most recent issue of the latest Data Sheet for the product concerned, copies of which will be supplied on request.

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## HINDCON CHEMICALS LIMITED

(AN ISO 9001: 2015 COMPANY)

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