

## PRE-APPLIED WATERPROOFING HDPE MEMBRANE FOR BELOW GRADE WATERPROOFING

### Description

NIROSEAL HDPE SA is pre-applied high performance self-adhesive HDPE membrane for waterproofing, composed of white polymer sheet of HDPE, pressure sensitive adhesive and weather resistant granular layer on the upper surface, which is specifically developed to elevate the construction and application performance of below grade waterproofing. Designed with an adhesive self-edge on one side, and a layer of back-coated self-edge on the other side, it realizes an adhesive-to-adhesive bond on self-edge overlaps, which enhances the installation applicability and significantly improves the overlapping strength. Even in harsh jobsite condition (such as rains, water, low temperature, etc.), it still achieves effective connection between membranes and remains fully adhered to concrete helping retain its performance even there is ground settlement beneath the slabs.

### Uses

Applied either horizontally to smoothly prepared concrete substrate and compacted earth or crushed stone substrate; or vertically to permanent formwork. Concrete is then cast directly against the adhesive side of the membranes.

NIROSEAL HDPE SA pre-applied Waterproofing Membrane is used for the waterproofing of exterior basement walls, foundations, floor plates, etc. The same product is suitable for vertical and horizontal areas and usable against pressurized water.

- Waterproofing to basements of industrial and civil engineering.
- Pre-applied waterproofing system for walls, tunnels and subways.

### Advantages

- Fully adhered to poured concrete – prevents water migration
- Unaffected by wet conditions – enables application in high water table areas
- Unaffected by contamination – does not require any special protection during construction
- Simple and easy to install – does not require special welding techniques
- Chemically resistant – can be used in all soil and subsoil conditions
- Resistant to weather conditions – the specially formulated surface coating ensures that self-adhesive properties withstand up to 49 days of UV exposure, rain water, dirt and contaminants, etc.
- Good dimensional stability – dimensional variation rate does not exceed 0.5%, with smaller wrinkles comparing to similar products.

- Resistant against impact and puncture, effectively reduces the possibility of membrane being destroyed during construction.
- High resistance to chemicals such as acid, alkali and salt, protect the membranes in most areas of alkaline land or acid rain.
- Long service life

### Characteristics\*

#### Properties of Membrane

Item	Property	Test Method	Typical Value
1	Color		White
2	Thickness	ASTM D 751	1.2mm/1.5mm
3	Tensile Strength	ASTM D412	≥ 25MPa
4	Elongation	ASTM D412 modified	≥ 500%
5	Puncture Resistance	ASTM E154	≥ 1000N
6	Peel Adhesion to Concrete	ASTM D903 modified	≥ 880N/m
7	Lap Adhesion	ASTM D1876 modified	≥ 880N/m
8	Low Temperature Flexibility	ASTM D1970	Unaffected at -29°C
9	Crack Cycling, 100 cycles	ASTM C836 modified	Unaffected at -23°C
10	Lateral Water Migration Resistance	ASTM D5385 modified	71m pass
11	Hydrostatic Head Resistance	ASTM D5385 modified	71m pass
12	Water Absorption	ASTM D570	< 0.5%
13	Vapor Permeance	ASTM E96 method B	<0.1 perms

### Application guidelines

#### Surface preparation

It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth with no gaps or voids. Grout around all penetrations and for stability.

#### Horizontal application

NIROSEAL HDPE SA pre-applied Waterproofing Membrane must be placed with weather resistant coating layer facing the concrete pour and the white polymer sheet facing the substrate. The overlapping between the membranes is 75 mm. Before removing the plastic release liner (on adhesive self-edge) ensure that

the membrane's overlapping seldge is positioned correctly and the underside of the succeeding sheet clean prior to overlapping.

Then start removing of plastic release liner to bond the membranes together. Use a heavy roller to ensure a complete perfect bonding between the membranes. Then go ahead with removing of plastic release liner and press membranes together.

### Vertical application

NIROSEAL HDPE SA pre-applied Waterproofing Membrane must be fixed mechanically to the substrate by using fixing tools. These fixings must have a low-profile head so that the membrane won't be damaged from the fixings. The overlapping between the membranes is 75 mm. Before removing the plastic release liner (on adhesive seldge) ensure that the membrane's overlapping seldge is positioned correctly and the underside of the succeeding sheet clean prior to overlapping.

Then start removing of plastic release liner to bond the membranes together. Use a heavy roller to ensure a complete perfect bonding between the membranes. Then go ahead with removing of plastic release liner and press membranes together.

### Placing / Application

The detailed installation of the membrane can be referred from installation manual. Contact our NIRMAN CHEMICALS LIMITED representative for further support. Membrane repair Inspect the membrane before placing the formwork, steel reinforcement or pouring of concrete. If any damages are found in the membrane the same shall be repaired with tapes from our NIROSEAL brand.

### Pouring of concrete

Ensure the plastic liner is removed before the concrete is poured. It is recommended that concrete is poured within 60 days. Care should be taken to avoid any damage to the membrane during the consolidation and compaction of concrete.

### Formwork removal

It is very important not to remove formwork until the concrete has sufficient compressive strength to develop the required adhesion with MBP-Pro Membrane. Too early removal of all formworks can lead to a displacement of NIROSEAL HDPE SA pre-applied

Waterproofing Membrane or concrete damage. A minimum concrete compressive strength of 10N/mm<sup>2</sup> recommended prior to removing formwork.

### Packaging and Roll sizes

Type	Film Thickness	Composite Thickness	Width	Length
1.2mm	0.9mm	1.5mm	1m/ 2m	20m
1.5mm	1.2mm	1.8mm	1m/ 2m	20m

### Storage and Self life

Store separately by material& type and avoid sun& rain exposure. Store under 35°C and horizontally stack maximum 5 layers.

Minimum 1 year shelf life under proper storage& transportation.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

For specific storage advice consult our local NIRMAN CHEMICALS representative.

### Health and Safety

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the NIRMAN CHEMICALS LIMITED Material Safety Data Sheet (MSDS) from our office or our website.

### Note

All Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact our local NIRMAN CHEMICALS representative.

### Disclaimer

Whilst any information contained herein is true, accurate and represents our best knowledge and experience, no warranty is given or implied with any recommendations made by us, our representatives or distributors, as the conditions of use and the competence of any labor involved in the application are beyond our control.

