



WPM 3000 BG

Composite, blindside HDPE membrane

DESCRIPTION

WPM 3000 BG is a unique composite sheet, comprising of a HDPE backing layer, a pressure sensitive adhesive membrane and trafficable weather resistant protective granular layer. The membrane firmly bonds to the poured concrete preventing ingress or migration of water around the structure.

As the mass of the structural concrete increases during the concrete pour, the pressure sensitive self-adhesive membrane is 'activated' and forms a continuous adhesive bond with the concrete poured against it. This results in excellent adhesion through the development of substantial inter-molecular forces.

USES

- Basements
- Tunnels
- Subways
- Swimming pools
- Lift pits
- Methane gas barrier

FEATURES

- Can be applied to a variety of substrates including compacted earth, concrete and formwork.
- Resistance to water migration: eliminates water and vapor migration by forming a strong mechanical bond to the concrete structure
- Superior barrier: acts as a barrier against aggressive ground salts, toxic contaminants and chemicals including methane gas, which may attempt to enter the structure through cracks in the concrete
- Fully-adhering, watertight laps
- Good crack protection: stress-absorbing and elongation properties to maintain a watertight seal to the structure if cracks develop in the base material or the slab
- Weather resistant
- Trafficable
- Easy application: no primers or protection material required
- Flexible material that adapts to jobsite irregularities for ease of installation

PHYSICAL PROPERTIES

Tensile property	
Max tensile force	
ASTM D412	≥ 28 Mpa
Breaking elongation at HDPE backing	
ASTM D412	≥ 700 %
Tear strength around nails	≥ 550 N
Puncture resistance	
ASTM E 154	≥ 1000 N

Water vapour transmission rate	
ASTM E 96-92	0 g/m ² /24 hours
Thermal resistance	
@ 70°C, 2 hours	no displacement, flow or dripping
Low temperature flexibility	
ASTM D 1970	no crack at -25°C
Water migration	0.7MPa, no migration
Peeling strength of bonding to poured concrete	
ASTM D 903 modified	
Clean surface	≥ 2.0 N/mm
Contaminated surface with cement powder	≥ 1.5 N/mm
Contaminated surface with mud and sand	≥ 1.5 N/mm
UV aging	≥ 1.5 N/mm
Aging test	≥ 1.5 N/mm
Peeling strength of bonding to poured concrete after being submerged in water	≥ 1.5 N/mm
Heat aging @ 70°C/168 hours	
Tensile retention rate	≥ 90 %
Elongation retention rate	≥ 80 %
Low temperature flexibility/°C	no crack at -23°C
Stability after heating	
Appearance	No crease, flow or dripping
Dimensional variation	≤ 1.0%

PACKING

Length: 20m
Width: 1.0m & 2.0m
Thickness: 1.2mm & 1.5mm

Note: Other thickness and lengths can be customized based on project requirements.

ACCESSORIES

WPM 3000 DSA - Double Sided Adhesive Tape-100mm x 10m
WPM 3000 BT - HDPE based Butt Joint Tape-160mm x 20m
WPM 3000 ST - HDPE based Sanded Tape-100mm x 20m

APPLICATION INSTRUCTIONS

Surface Preparation

Horizontal surfaces : The substrate must be sound, free of loose aggregate and sharp protrusions. The surface does not need to be dry, but standing water must be removed to prevent contamination of overlaps.

Vertical surfaces : WPM 3000 BG must not be applied directly onto shore piles. A plywood sacrificial shutter or spray concrete finish should be done prior to installation of the membrane to obtain an even surface.

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Installation of membrane

Horizontal surfaces :Place the membrane with the granular layer facing towards the concrete pour. Carefully align the membranes and roll it out ensuring a 75 mm overlap with adjacent sheets along the adhesive selvedge. End laps should be staggered by a minimum of 500mm to avoid a build up of layers.

Leave plastic release liner in position until overlap procedure is completed. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller. During damp conditions (e.g. water spillage), the selvedge can be gently warmed using a hot air gun or similar to remove moisture or condensation and improve initial adhesion.

Vertical surfaces : Roll out the membrane with the granular layer facing towards the concrete pour. Mechanically fasten to the substrate using fixings (i.e. fasteners) appropriate to the substrate. Carefully align the membranes and roll it out ensuring a 75 mm overlap with adjacent sheets along the adhesive selvedge. Secure the top of the membrane using a batten or fixing 50mm below the top edge. Mechanically fasten to the substrate, typically at 600mm centres, using fixings (i.e. fasteners) appropriate to the substrate. Fixings can be made through the selvedge, this allows firmly rolled overlaps, which are covered by the subsequent strip of HDPE membrane. End laps should be staggered by a minimum of 500mm to avoid a build-up of layers. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly.

Short Edge Overlapping or Cut Edges

Remove the granules for 100mm width using a hot-air scrapper (or wire brush the loose granules) from the bottom membrane of the lap. Peel one side of the WPM 3000 DSA and stick it onto the cleaned surface and press firmly using a roller. Position the upper lap of the membrane ensuring a full and aligned overlap. Once the lap is positioned correctly, slowly remove the release film, while firmly rolling the joined sheets together with the seam roller.

Alternatively short edges of the rolls can be butt jointed using WPM 3000 BT. Centrally place WPM 3000 BT between the two edges below the membranes. Slowly remove the release film,

while firmly rolling the joined sheets together with the seam roller.

Membrane Repair

Check membrane after finishing bottom bar laying & rectify any damage & puncture. Ensure the area to be repaired is clean, free from contamination and wire brushed to remove all loose granules. Large damaged areas to be repaired with an oversize patch of WPM 3000 BG fixed with WPM 3000 DSA. Minor damages can be repaired using WPM 3000 ST.

Pouring of Concrete

It is recommended that concrete be poured within 56 days (42 days in hot climates) of installation of the membrane. Concrete must be placed and compacted carefully to avoid damage to the membrane. Never use a sharp object to consolidate the concrete.

STORAGE

Store in dry ventilated condition, protect from direct sunshine, rain or other extreme environment. Storage temperature must be less than 45°C. The max height of stack is 5 layers in the original unopened packing. Prevent squeezing between membranes during transit.

DISPOSAL

Disposal of empty packaging should be in accordance with local waste disposal authority regulations.

For further information please refer to the Material Safety Data Sheet.

CONDITIONS OF SALE

Sold subject to the Company's conditions of sale which are available on request.

NOTE

The information supplied in this datasheet is based upon extensive experience and is given in good faith in order to help you. Our Company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products. However, as we have no control over site conditions or the execution of the work, we accept no liability for any loss or damage which may arise as a result thereof.



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