



THE STRESS FREE BONDING



Proudly made in India

## TECHNICAL DATA SHEET

# ESSRBOND WPK 45 L

CGSEAL/TDS/020, Date : NOV - 2019 (Solvent Base Polyurethane Liquid Applied Waterproofing Membrane)

### DESCRIPTION

ESSRBOND WPK 45 L is a premium, liquid- applied, Polyurethane highly permanent elastic, cold applied and cold curing, one component polyurethane membrane used for long-lasting waterproofing. ESSRBOND WPK 45 L is based on pure elastomeric hydrophobic polyurethane resins, which result in excellent mechanical, chemical, thermal, UV and natural element resistance properties. Cures by reaction with ground and air moisture.

### FEATURES

- ◆ Simple application (roller brush or airless spray).
- ◆ When applied forms seamless membrane without joints.
- ◆ Resistant to water.
- ◆ Resistant to frost.
- ◆ Resistant to root penetration, so it can be used in green roofs.
- ◆ Crack-bridging up to 2mm, even at -10°C.
- ◆ Provides water vapor permeability, so the surface can breathe.
- ◆ Provides excellent thermal resistance, it never turns soft.
- ◆ Provides excellent weather and UV resistance.
- ◆ Waterproofs old bitumen-, asphalt felts by covering them, without the need to remove them prior to application.
- ◆ Maintains its mechanical properties over a temperature span of -40°C to +80°C.
- ◆ Provides excellent adhesion to almost any type of surface.
- ◆ The waterproofed surface can be used for domestic and public pedestrian traffic
- ◆ Resistant to detergents, oils, seawater and domestic chemicals.
- ◆ Even if the membrane gets mechanically damaged, it can be easily repaired locally within minutes.

### USES

- ◆ Waterproofing of Balconies and Verandas
- ◆ Waterproofing of Wet Areas (under tile) in Bathrooms, Kitchens, Balconies, Auxiliary Rooms, etc
- ◆ Waterproofing of Pedestrian decks
- ◆ Waterproofing of Green Roofs, Flowerbeds, Planter Boxes
- ◆ Waterproofing of old Bitumen felts, Asphalt felts, EPDM and PVC membranes and old Acrylic coatings.
- ◆ Protection of Polyurethane Foam Insulation
- ◆ Waterproofing and protection of Concrete constructions like Bridge- Decks, Tunnels, Stadium Stands, Car Parks, etc.



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PROPERTIES	RESULT	TEST METHOD
Chemical Properties	Good resistance against acidic and alkali solution (5%) detergents, seawater, and oils.	-
Solid content, %	Min 85%	ASTM C 836
Appearance	Viscous liquid	-
Color available	Grey / White	-
Density @ 27°C (g/cc)	1.30 ± 0.1	ASTM D 1475
Curing Time	1mm thick in 24 hrs.	25°C @ 50 % R.H

### Typical Cured Membrane Properties (@ 28 Days)

Rain Stability Time	4 hours	25°C @ 50 % R.H
Service Temperature	-40°C to +90°C	In house Lab
100% Modulus Elongation	2.5 N	ASTM D 412
Weight Loss	15 + 2%	ASTM C 836
Peel adhesion to primed concrete,	≥ 2.0 (concrete failure)	ASTM D 4541
Recommended Application Temperature:	15°C to 30°C	-
Water absorption %	0.20%	-
Hydrolysis (5% KOH 7 days cycle)	No significant elastomeric change	In House Lab
Resistance after water aging	Passed	EOTA TR - 012
Shore 'A' Hardness	>40	ASTM D 2240 (15")
Crack Bridging Capability	Up to 3.5mm Cracks	EOTA TR - 008
Adhesion to concrete	3.05 Mpa	ASTM D 908
Tensile Strength	Approx. 3 N / mm <sup>2</sup>	ASTM D 412
Elongation at break	Approx. 600 %	ASTM D 412



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### CONSUMPTION

1 – 1.4 kg/m<sup>2</sup> applied in two or three layers. This coverage is based on application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature and application method can alter consumption.

### SURFACE PREPARATION

Careful surface preparation is essential for optimum finish and durability. The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. Substrate compressive strength should be at least 25MPa, cohesive bond strength at least 1.5MPa. New concrete structures need to dry for at least 28 days. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothen. Any loose surface pieces and grinding dust need to be thoroughly removed. WARNING:- Do not wash surface with water!

### REPAIR OF CRACK & JOINTS

The careful sealing of existing cracks and joints before the application is extremely important for long lasting Waterproofing results.

Clean concrete cracks and hairline cracks, of dust, residue or other contamination. Prime locally with the WPK PRIMER and allow 2-3 hours to dry. Fill all prepared cracks with ESSRBOND MS 40 sealant. Then apply a layer of ESSRBOND WPK 45L, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of the ESSRBOND Fabric. Press it to soak. Then Saturate the ESSRBOND Fabric with enough ESSRBOND WPK 45 L, until it is fully covered. Allow 12 hours to cure.

Clean concrete expansion joints and control joints of dust, residue, or other contamination. Widen and deepen joints (cut open) if necessary. The prepared movement joint should have a depth of 10-15 mm. The width: depth ratio of the movement joint should be at a rate of approx. 2:1. Apply some ESSRBOND MS 40 Joint- Sealant on the bottom of the joint only. Then with a brush, apply a stripe layer of ESSRBOND WPK45 L, 200mm wide centered over and inside the joint. Place the ESSRBOND Fabric over the wet coating and with a suitable tool, press it deep inside the joint, until it is soaked and the joint is fully covered from the inside. Then fully saturate the fabric with enough ESSRBOND WPK 45 L. Then place a polyethylene cord of the correct dimensions inside the joint and press it deep inside onto the saturated fabric. Fill the remaining free space of the joint with ESSRBOND MS 40 sealant. Do not cover. Allow 12-18 hours to cure.

### PRIMERING

Prime absorbent surfaces like concrete, cement screed or wood with ESSRBOND WPK PRIMER. Prime surfaces like bitumen, asphalt felts with ESSRBOND WPK PRIMER non-absorbent surfaces like metal, ceramic tiles and old coatings with ESSRBOND WPK PRIMER. Allow the primer to cure.

### WATERPROOFING MEMBRANE

Stir well before using. Pour the ESSRBOND WPK 45 L onto the primed surface and lay it out by roller brush or airless spray until all surface is covered. You can use airless spray allowing a considerable saving of manpower. After 12-18 hours (not more than 48 hours) apply another layer of the ESSRBOND WPK 45 L. For demanding applications, apply a third layer of the ESSRBOND WPK 45 L



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### ATTENTION

Do not apply ESSRBOND WPK 45 L over 0.6 mm thickness (dry film) per layer. For best results, the temperature during application and cure should be between 5°C and 35°C. High humidity may affect the final finish. If a color stable and chalking free surface is desired, apply one or two layers of the ESSRBOND TOP COAT over the ESSRBOND WPK 45 L. The application of the ESSRBOND TOP COAT, is especially required, if a dark final color, is desired. (e.g. red, grey, green)

### WARNING

The ESSRBOND system is slippery when wet. In order to avoid slipperiness during wet days, sprinkle suitable aggregates onto the still wet coating to create an anti-slip surface

### STORAGE

Store in a cool and dry place. Away from direct sunlight and moisture. Storage temperature: 5-30°C. Products should remain in their original, unopened containers.

### SHELF LIFE

Six months from the date of manufacturing in unopened conditions, Pails should be stored in dry and cool room.

### PACKING

ESSRBOND WPK 45 L is supplied in 5 kg, 25 kg, pails.

### SAFETY MEASURES

ESSRBOND WPK 45 L contains isocyanates. See information supplied by the manufacturer.

Please study the Safety Data sheet. PROFESSIONAL USE ONLY



### NOTE

The company's products are sold subject to the Company's standard terms and conditions of sale. Products are warranted against defective materials and workmanship. The company makes every effort to ensure that all the information, recommendations or the specifications provided by it are accurate and true. However as the company has no control over the conditions of use, it cannot accept any liability, either directly or indirectly regarding the usage of its products. Product specifications are subject to change without prior intimation to users as the products are being continuously upgraded.