PRODUCT DATA SHEET

DUROFLEX 1K

One component, flexible, cementitious fibre reinforced water proof membrane

DUROTECH
Engineered Construction Chemicals
Made In Australia For Over 45 Years

DESCRIPTION

Duroflex 1K is one component, flexible fibre reinforced water proof membrane. With a specially formulated cementitious base incorporating graded aggregates and polymers, producing a highly flexible water proof membrane – capable of withstanding significant flexural strain.

It is suitable for both positive and negative pressure – up to 25 metres (2.5 bars).

Features

- Easy to apply by brush/roller or spray.
- Can be applied on damp surfaces.
- High adhesion strength.
- Versatile mixing ratio
- Good crack bridging

USE

- A highly flexible waterproofing membrane for under tiles in internal wet areas, including: bathrooms, showers, laundry, kitchen and toilet areas – when installed to AS/NZ 3740
- A highly flexible waterproofing membrane for applications such as planter boxes and retaining walls.
- A highly flexible waterproofing membrane for under tiles or other wearing systems, including: rooftops, external balconies and podium levels – when installed to AS/NZ 4654.2
- Waterproof protection of concrete shelves
- Suitable for use in concrete swimming pools
- In situations subject to both positive and negative hydrostatic pressure up to 25 metres (2.5 bars)
- For use over cement redered masonry, FC sheeting, concrete, water resistant plasterboard and structural plywood.

TECHNICAL INFORMATION

Appearance	light grey ready-mixed waterproofing product – Requires only water addition.
Apparent volumetric mass	1.0 kg/dm3
Shelf life	12 months in the original packaging in dry environment
Pack	20 kg bags
Mixing water	≈ 5 – 7 ℓ / per 20 kg bag
Viscosity	66,000 mPas · sec
Specific weight of the mixture	≈ 1.5 kg/dm3
Pot life	≥ 1 hr
Temperature range for application	+5 °C to +35 °C
Substrate residual humidity	≤ 4%
Minimum total thickness	≥ 2 mm
Maximum thickness per layer	≤ 1,5 mm
Waiting time between 1st & 2nd coat	≥ 6 Hours
Waiting time before laying the covering*	≥ 24 hrs
Interval before normal use	≈ 7 days / ≈ 14 days (permanent water)
Working temperature	-20 °C to +90 °C
Coverage with trowel application	≈ 1.20 kg/m² per mm of thickness
Coverage with brush application	≈ 1.15 kg/m² per mm of thickness
Coverage with roller application	≈ 1.10 kg/m² per mm of thickness

SINCE 1977

FLOORING APPLICATION PERFORMANCE

VOC INDOOR AIR QUALITY (IAQ) - VOLATILE ORGANIC COMPOUND EMISSIONS

Conformity	EC 1-R plus

HIGH-TECH

Initial adhesion	≥ 2 N/mm2	EN 14891–ISO 13007-5
Adhesion after contact with water	≥ 1 N/mm2	EN 14891–ISO 13007-5
Adhesion after heat ageing	≥ 2 N/mm2	EN 14891–ISO 13007-5
adhesion after freeze-thaw cycles	≥ 1 N/mm2	EN 14891–ISO 13007-5
Adhesion on contact with lime water	≥ 1.5 N/mm2	EN 14891–ISO 13007-5
Adhesion on contact with chlorinated water	≥ 0.8 N/mm2	EN 14891–ISO 13007-5
Water-resistance	no penetration	EN 14891–ISO 13007-5
Coefficient of resistance to water vapor diffusion (μ)	≤ 875	EN 14891–ISO 13007-5
Crack Bridging in standard conditions	≥ 0.75 mm	EN 14891–ISO 13007-5
Crack Bridging at low temperatures (-5 °C)	≥ 0.75 mm	EN 14891–ISO 13007-5
Bond Strength	2.1 MPa²	EN 14891–ISO 13007-5
E-modulus	17.2 u/mm²	EN 14891–ISO 13007-5
Conformity	CM O1P	EN 14891–ISO 13007-5

All values taken at +23 °C, 50% R.H. and no ventilation.

APPLICATION:

1SURFACE PREPARATION

Ensure all surfaces are cleaned by blast cleaning, high-pressure water-jetting (400 bar), wire-brushing, grinding and abrading of ceramic tiles etc., in order to remove all previous coatings, or any and all traces of grease, rust, release agents, cement laitance and any other material which could reduce adhesion. All dust deposits from this preparation must also be removed i.e. by vacuum.
Ensure that the substrate is adequately dampened prior to application of Duroflex 1K.
New concrete and render must have cured for a minimum of 28 days.

For good adhesion strength and performances, Duroflex 1K should be applied by trowel, this achieves good coverage and consistency throughout application.

Concrete and Masonry Substrates:

Please note cracks that do not move or continue to spread (Static cracks) up to 2mm in width must be treated and filled with Duroseal 25LM.

If there are static cracks that are greater than 2mm but less than 4mm in width, they must also be filled with Duroseal 25LM. For cracks GREATER than 4mm, use Durotech Rapid Patch to fill. Cracks that are greater than 2mm that are subject to movement must be referred to the builder or engineer for structural assessment and method of rectification to perform as an expansion joint.

DO NOT INSTALL IF CRACKS ARE LIVE AND SUBJECT TO MOVEMENT.

All floor and wall sheets must be installed following sheet manufacturers specifications. Internal and external sheet floor systems, that are suitable for wet area applications, require sealant/adhesive application to seal sheet joints at the time of installation in order to comply with manufacturer's instructions.

Floor sheet joints that use polyurethane sealants at installations must be cured for a minimum of 7 days priot to the application of the membrane.

All sheet joints must be isolated from the membrane by a minimum 75mm wide bond breaker tape that covers the entire width & length of the sheet join.

As floor sheet joint are more prone to movement over joist supports, apply an extra 1000micron (1.0mm) wet coat extending a minimum 35mm either side of the bond breaker tape. A further 2 coats @ 1000microns each must be applied over the entire area to be waterproofed.

EXPANSION JOINTS:

Expansion joints must be a minimum of 6mm. Ensure expansion joints are isolated from membrane using bond breaker tape that covers the entire width and length of the joint. An extra 1000micron (1.0mm) wet coat that extends a minimum of 35mm either side of the bond breaker tape must be applied as an extra coat. A further 2 coats @ 1000microns wet coat each, is required to the entire area to be waterproofed.

PRIMING :

Porous substrate

Adequately dampen substrate prior to application and ensure surface is damp but not wet.

Non-Porous substrate

Mechanical abrasion such as sanding or grinding is required. Once complete pre-soak or dampen the surface. For non-porous substrates such as steel or plastics consult Durotech's technical department.
Allow 2- 4 hrs drying time between coats depending on ambient conditions.

MIXING:

Duroflex 1K is a 1 part cementitious powder product, which requires the addition and mixing of water. The water ratio can be adjusted in order to obtain your desired consistency and workability for the desired application.

IF APPLICATION IS BY ROLLER OR SPRAY – mixing requirements are 7.6 litres of water per 20kg bag

IF APPLICATION IS BY BRUSH – mixing requirements are 6.5 litres of water per 20kg bag

IF APPLICATION IS BY TROWEL – mixing requirements are 5.2-5.6 litres of water per 20kg bag.

Add powder into the water while mixing with a mechanically powered high shear stirrer.

Always add powder to liquid to avoid lumps & incomplete mixing. Continue mixing until uniform and a lump free state is acquired. DO NOT MIX BY HAND

APPLICATION NOTES

- Duroflex 1K is a 2 COAT SYSTEM
- It can be applied by brush, roller, spray or trowel
- Each coat must be applied at a uniform thickness of 1000microns (1.0mm) - 2 coats to achieve a wet film thickness of 2.0mm
- DO NOT APPLY IN THICKNESS GREATER THAN 2.0mm PER COAT
- A wet film gauge should be used to regulate adequate coverage of each coat
- This TDS and it's instructions may not be suitable for every application, this is a guide to assist in meeting the installation requirements of AS/NZ 3740 & AS/NZ 4654.2, we recommend that the application be carried out by a licensed professional holding a certificate 3 in waterproofing

RECOATING

Ensure the surface is free of all contaminants including tile adhesive residue, dust, oil, grease or any other types of contaminants. The membrane surface must be washed down thoroughly, rinsed and allowed to dry.

IMPORTANT NOTES

- Must not be installed directly onto wet, contaminated or friable surfaces.
- Min dry film thickness (after 2 coats) is 1.0mm.
- Check regularly with a wet film gauge during application of coats.
- DO NOT apply in temperatures greater than 35^{o}C or -5^{o}C. As cold or damp conditions will adversely affect curing.

- When used in areas subject to ambient conditions below freezing temperatures you must contact Durotech technical department.
- This membrane is suitable for use an an exposed finish or as a top coating exterior membrane on surfaces that are subject to light pedestrian or maintenance traffic only.
- All AS 4654.2 external membrane applications covered with a reinforced tile bed or screed must be separated from the membrane by a minimum of 1 layer of 200um plastic sheet as a separation layer in accordance with AS 3958.1-3.3.2.3.
- The installation of protection board against ballast, such as river pebbles or similar loose laid unbound coverings, must be isolated from the membrane by a compatible drainage cell and filter fabric system.
- Must not be applied over lightweight concrete.

PAINTABILITY :

Duroflex 1K is paintable – refer to the paint suppliers recommendations.

STORAGE AND SHELF LIFE:

12 months when stored unopened in temperatures between 5ºC and 35ºC. Protect from excessive heat, direct sunlight and freeze/thaw.

CLEANING:

Warm soapy water will remove product from tools and equipment prior to full cure.

SHELF LIFE:

12 months in unopened containers when stored in a cool dry and weatherproof environment

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