Technical Datasheet

Duraflex 100

Two component, highly flexible, waterproofing cement-based slurry

Description

Duraflex 100 is a two-component, highly flexible, brushable waterproofing slurry consisting of an emulsion resin (component A) and a cement-based powder mortar (component B). After hardening, it forms a seamless, jointless membrane, with the following advantages:

- Crack-bridging ability.
- Total waterproofing against positive hydrostatic pressure up to 5 atm according to EN 12390-8. It can also withstand negative pressure.
- Vapor permeability.
- Suitability for potable water tanks, as well as food contact surface according to W-347.
- Resistance to UV radiation.
- Protection of concrete from carbonation.
- No corrosive effect on the reinforcing steel in concrete.
- Resistance to sewage water (sewage water treatment plants, sewers, etc.).
- Resistance to aging.
- Bonding to slightly wet surfaces without priming.
- Suitability for green roofs, flower beds, etc., as it is certified as root-resistant.

Certified according to EN 1504-2 and classified as coating for surface protection of concrete.

Also certified according to EN 14891 and classified as liquid-applied, two-component, water-impermeable product CM O2P for waterproofing under tiles, in external installations (walls and floors) and swimming pools.

Fields of application

Duraflex 100 is used for waterproofing surfaces made of concrete, plaster, bricks, cement blocks, terrazzo, gypsum boards, wood, metal, etc. Ideal in cases where high flexibility and good adhesion of the waterproofing layer are required.

Suitable for waterproofing substrates subject to expansion-contraction or vibration and show or are expected to show hairline cracks, such as flat roofs, balconies, above ground water tanks, swimming pools, inverted roofs, etc

It can also be used for waterproofing basements, internally or externally, against moisture or water under pressure.

Tiles should be fixed with a high-performance, polymer-modified tile adhesive, such as FLEXBOND FX and FLEXBOND HX.

Technical data

Wet properties

Bulk density of dry mortar	1.40 kg/lit
Bulk density of fresh slurry	1.70 kg/lit
Pot life	~30 mins (+20°C)

Final properties

Capillary absorption and permeability to water: *(EN 1504-2: w < 0.1)*	0.00594 kg/m^2·h$^{-0.5}$
Water vapor permeability: *(EN ISO 7783-2, Class I: S_d < 5 m)*	S_d = 0.61 m
Compressive strength after 28 days: *(EN 12190)*	12 MPa
Flexural strength after 28 days: *(EN 12190)*	8 MPa
Adhesion strength: *(EN 1542)*	1.7 MPa

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Elongation at break max: *(EN ISO 527-1 & -2)*	101.2%
Crack-bridging ability at +23°C: *(EN 1062-7, Method A)*	Class A4 – crack width > 1.25 mm
Water penetration under positive hydrostatic pressure: *(EN 12390-8, 3 days at 5 bar)*	no penetration
Water penetration under negative hydrostatic pressure	no penetration

Durability against

Rain	After 4 hours
Walking	After 1 day
Tile fixing	After 1 day
Water under pressure	After 7 days
Backfil	After 3 days

Directions to use

Substrate preparation

The substrate must be clean, free of oil or grease, loose material, dust, etc. Water leaks should be plugged with HYDROFIX R ultra rapid-setting, cementitious leak-plugging mortar. Any cavities on concrete surface should be filled and smoothed out with FLEXCEM GP, FLEXCEM FR60 or a cement mortar improved with STRUCOSEAL, after all loose aggregate has been removed and the surface has been well dampened.

Starter bars and spacers should be cut to a depth of about 3 cm into concrete and holes should be filled, as described above. Existing construction joints are opened longwise in a V shape to a depth of about 3 cm and are subsequently filled, as above.

Corners, like wall-floor junctions, should be filled and smoothly rounded with FLEXCEM GP or a cement mortar improved with STRUCOSEAL (formation of a fillet, triangular in cross section, with sides of 5-6 cm).

In case of masonry walls, joints should be first filled carefully, otherwise it is recommended to apply a cement slurry layer first improved with STRUCOSEAL.

For waterproofing basements in old buildings, the existing plaster should be removed to a height of at least 50 cm above water level, before proceeding as above. Wherever flat surface formation is required (smoothing, slope creation, etc.) the use of FLEXCEM GP, FLEXCEM FR60 or a mortar improved with STRUCOSEAL is recommended.

Mixing

Duraflex 100 Liquid part (Part A) is mixed with Powder part (Part B) with a help of low speed (300-400 rpm) paddle mixer. The mix has to be stirred thoroughly, until a lump-free smooth slurry is obtained. Stand for 4-5 minutes after mixing to release air from the mix.

Application

The substrate must be pre-wetted to a saturated surface dry condition before application. The surface to be covered with **Duraflex 100** must be free of standing water. The material is applied by brush or roller in two or more layers, depending on the water load. Layers thicker than 1 mm should be avoided, because the material may crack. Each new coating is applied after the previous one has dried for 5-6 hours.

In case **Duraflex 100** needs to be locally reinforced (inside corners where forming fillets is not necessary, at junctions, etc.), the use of a 10 cm wide polyester fleece (30 g/m^2) or fiberglass mesh (65 g/m^2) is recommended.

Consumption

Water load	Minimum consumption	Minimum thickness
Moisture	1.6 kg/m^2	~ 1.0 mm
Water without pressure	2.5 kg/m^2	~ 1.5 mm
Water under pressure	3.0-3.5 kg/m^2	~ 2.0 mm

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Packaging

30 kg packaging (21 kg cement-based powder mortar + 9 kg emulsion resin).

12 kg packaging (8.4 kg cement-based powder mortar + 3.6 kg emulsion resin) with 5m of polyester fleece

Shelf life

12 months from production date if stored in original, unopened packaging, at temperatures between +5°C and +35°C. Protect from direct sunlight and frost.

Remarks

- In case of water under pressure, care should be taken so that pumping, which keeps the water level low, does not stop before **Duraflex 100** has sufficiently hardened. About 7 days are needed.
- In case of water under pressure, the structure bearing the waterproofing layer (wall, floor, etc.) should be properly designed in order to be sufficiently static to withstand hydrostatic pressure.
- In case of operational walkable floors, the floor surface waterproofed with **Duraflex 100** should be protected with a cement mortar layer.

Health & safety

Avoid direct contact with this product. Use of safety glasses, rubber gloves, and protective clothing is recommended. If contact occurs, wash affected areas with mild soap and water. Keep product out of reach of children.

Refer to Safety Data Sheet for complete health and safety information.

Notes

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