Technical Datasheet

DUROCRET-PENETRATE

Repairing and waterproofing cement mortar with crystallizing effect

Description

DUROCRET-PENETRATE is a pre-mixed, cement-based mortar, without corrosive ingredients, suitable for indoor and outdoor applications. It consists of special active chemicals, which in contact with moisture and the present hydroxide of lime, react and form insoluble bonds (crystals). These crystals block the capillary pores and seal the shrinkage cracks inside the concrete, so as to prevent any further water absorption.
It offers:

- High compressive and flexural strength
- Abrasion resistance.
- Very good bond strength to the substrate.
- Simplification of works.
- Continuous protection of the construction from water presence as it remains permanent active.
- Excellent bond strength to concrete, under both positive and negative water pressure.
- Sealing of hair cracks with width up to 0,4 mm, even if they appear afterwards.
- Protection of the construction from corrosion of the reinforcement steel of concrete.

There is no influence on the waterproofing of construction, in case of damaging the concrete surface or DUROCRET-PENETRATE.
It does not affect the vapour permeability of concrete. It has a simple and low-cost application.
It is classified as a CC R3 type mortar, for concrete repairs, according to EN 1504-3

Fields of application

DUROCRET-PENETRATE combines two actions in one product, repair and waterproofing.
It is used for concrete or brickwork repair and patching, groove formation etc. It is suitable for repairs of basements, foundations, manholes, water tanks, sewage tanks, before the application of the brushable sealing slurry AQUAMAT-PENETRATE.

Technical data

Form:	cementitious powder
Color:	grey
Grain size:	up to 1.3 mm
Pot life:	40 min at +20^{0}C
Water demand:	4.50 l/25 kg bag
Bulk density of dry mortar:	1.35 ± 0.10 kg/l
Bulk density of fresh mortar:	2.20 ± 0.10 kg/l
Compressive strength:	> 38.0 N/mm^2
Flexural strength:	> 8.0 N/mm^2
Carbonation resistance:	Passses
Chloride ion content	0.00%
Adhesion strength	≥ 1.8 N/mm^2
Thermal compatibility Part 1 (50 freeze-thaw cycles):	≥ 1.7 N/mm^2
Capillary absorption	0.33 kg·m^{-2}·h$^{-0,5}$
Reaction to fire	Euroclass A1

Directions for use

1. Substrate
The substrate should be clean, free of dust, oily or loose materials etc. Very smooth surfaces should be treated with mild sand blasting or water-blasting, or carefully with chemical wash-up with 15% hydrochloric acid. Water leaks should be plugged with AQUAFIX rapid setting cement. The surface should be dampened, before the application of DUROCRET-PENETRATE.

2. Application
DUROCRET is added into the exact recommended water quantity, under continuous stirring, until a homogenous mixture is formed. The material is applied using a trowel as usual.
After the end of application, the final surface must be treated for the next 2-3 days, so as for the waterproofing layer to remain slightly wet and harden properly.

DUROCRET-PENETRATE

Damping of the surface should be done by the time DURICRET-PENETRATE has started hardening in order to avoid the possibility of damages. Usually 2-3 times water spraying is enough per day.
The applied surface should be protected from rain and frost.

Consumption

Approx. 17 kg/m^2/cm of layer thickness.
To form a groove, 5-6 cm wide: 1.9-2.7 kg/m.

Packaging

DUROCRET-PENETRATE is supplied in paper bags of 25 kg.

Shelf-life - Storage

12 months from production date if stored in original, unopened packaging, in places protected from moisture and frost.

Remarks

- The use of excess amount of water than the recommended one, may cause increase of the flow of the material after some minutes, making the application difficult. Always use the exact recommended quantity of water.
- Temperature during application should be at least +5^{0}C.
- DUROCRET-PENETRATE contains cement and reacts as alkaline with water, so it is classified as irritant.
- Consult the usage risks and safety advice written on the bag.
- In case DUROCRET-PENETRATE is to be covered with mortar, plaster or tiles, consult the Technical Department of ISOMAT.

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EN 1504-3

Concrete repair product for structural repair CC mortar (based on hydraulic cement)

Compressive strength: class R3

Chloride ion content: ≤ 0,05%

Adhesive Bond: ≥ 1,5 MPa

Carbonation resistance: Passes

Elastic modulus: ≥ 15 GPa

Thermal compatibility part 1: ≥ 1,5 MPa

Capillary absorption: ≤ 0,5·kg·m^{-2}·h$^{-0,5}$

Dangerous substances: comply with 5.4

Reaction to fire: Euroclass A1

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