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a.b.e.® Construction Chemicals

dura.proof krystalkote

CEMENTITIOUS WATERPROOFING SYSTEM BY CRYSTALLIZATION

DESCRIPTION

dura.proof krystalkote is a cementitious waterproofing coating which protects and waterproofs concrete structures by crystallization. The active chemicals react with moisture in the concrete resulting in a crystalline formation within the pores and capillary tracts of concrete, thus waterproofing the structure against penetration of water and other liquids from any direction. **dura.proof krystalkote** gives a strong and lasting waterproofing protection against dampness and ground water hydrostatic pressure.

USES

Recommended for use on interior and exterior below grade surfaces. **dura.proof krystalkote** gives protection against concrete decay and waterborne corrosive salts. Can be used for negative waterproofing of concrete structure and on horizontal structural slabs against hydrostatic pressure as it provides strong resistance to impact and abrasion.

Area of application

- Basements
- Wet areas
- Tunnels
- Underground garages
- Planter boxes

ADVANTAGES

- Single component and easy to apply
- Can be used for positive and negative waterproofing of concrete structure
- Protection against rising dampness on ground slab

SURFACE PREPARATION

The concrete surface must be clean and free from laitance, oils, grease, curing agents or other foreign matters. If surface is too smooth or highly contaminated with foreign particles, sand blast or acid etch surface before treatments.

Concrete surface must be sound. Rout out visible cracks exceeding 0.4 mm wide, honeycombed pockets to depth of about 40 mm and width of 25 mm. Mix three parts of **dura.proof krystalkote** to one part water by weight, until stiff mortar consistency is achieved. Prime concrete surface with one slurry coat of **dura.proof krystalkote** before applying the mortar mix onto area to be patched, tightly sealing cavities.

dura.proof krystalkote must be applied on damp substrates only to ensure maximum chemical penetration. Pre-wet substrate until damp prior to application of **dura.proof krystalkote**. If concrete surfaces dry out before application, it must be re-wetted.

MIXING

Mechanical mixing using a heavy duty drill and helical mixer is the recommended mixing method. When using a heavy duty drill/stirrer for single bag mixing (25 kg) the drill/stirrer should provide a minimum of 1100W input power, 600W output power, torque 45 Nm and variable speed of 0 to 700 rpm, including a heavy duty 2 paddle having a 120 mm diameter and helical stirrer height of 100 mm suitable for mixing cement mortars and grouts. The rotation of the stirrer should be such that the material is lifted from the bottom of the mixing container upward during mixing. First add approximately 70% of the total water required to a clean mixing vessel, whilst stirring slowly add the powder to the water. Once all the powder is introduced into the water mix the product for 3 minutes ensuring good dispersion. Add the balance of the water and thoroughly mix until a smooth lump free consistency is achieved. Mix 7.25 to 7.75 litres of clean potable water to 25 kg **dura.proof krystalkote**.

APPLICATION SLURRY COAT

Apply a minimum of 2 coats at 90° angles to the previous coat, at a minimum rate of 0.5 kg/m² per coat using a block brush or roller. The second coat must be applied while the first coat is still green but sufficiently set so that it is not drawn off while applying the second coat. The mixed material must not be applied at a temperature below 5 °C or on a frozen surface. At no instance should the total thickness exceed 5 mm in a single application.

DRY SHAKE METHOD (NEGATIVE WATERPROOFING)

Sprinkle **dura.proof krystalkote** powder directly from the packaging after allowing concrete to achieve initial set. Sprinkle **dura.proof krystalkote** at the rate of 3 – 3.5 kg/m² evenly and trowel to required finish or power float. Should the product lose its required consistency as a result of standing too long prior to application do not re-temper the mix, discard the product and mix a fresh bag of product.

TECHNICAL DATA

Test	Method	Typical Result
Final set	ASTM C 191*	< 16 hours
Flexural strength	ASTM C 348-02*	
7 days		4.8 N/mm ²
28 days		8.6 N/mm ²
Compressive strength	ASTM C 109*	
7 days		> 25 N/mm ²
28 days		> 45 N/mm ²
Adhesion strength	ASTM D 4541*	
28 days		> 1.2 N/mm ²
Resistant to hydrostatic pressure when applied on negative side		
28 days		> 0.8 MPa
*Test modified		

DRY SHAKE METHOD (POSITIVE WATERPROOFING)

Sprinkle **dura.proof krystalkote** powder directly from the packaging at the rate of 2 kg/m² evenly onto the lean concrete substrate just before the pouring of the concrete.

CURING

After **dura.proof krystalkote** has hardened, cure the treated surface with a light mist of clean water at regular intervals three times a day, for the initial 2 – 3 days. In extremely hot weather curing period may have to be extended to several days.

PROTECTION

Protection of **dura.proof krystalkote** is not obligatory. However if used on external areas, subjected to heavy rain, harsh sunlight or frost, the finished application should be protected for at least 24 hours.

PACKAGING

25 kg bag.

SHELF LIFE

Shelf life of 12 months stored in unopened bag in a cool dry elevated place.

COVERAGE

For Slurry coat / Brush application method, apply the rate of 1 kg/m² depending on the area of application.

CLEANING

Use water for cleaning before setting, hardened material will have to be mechanically removed.

HEALTH AND SAFETY

dura.proof krystalkote is a cement based product and is alkaline which may cause dermatitis. We recommend that PVC or similar gloves and safety goggles should be worn during handling.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals** endeavors to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot – because **a.b.e.®** has no direct or continuous control over where and how **a.b.e.®** products are applied – accept any liability either directly or indirectly arising from the use of **a.b.e.®** products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

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