

## Estokote Crystalline

### Crystalline Capillary Waterproofing System

#### Description

In the presence of moisture, the active chemical in **Estokote Crystalline** penetrates concrete and reacts chemically with free lime to produce insoluble crystals. This crystalline growth reduces porosity by blocking capillaries and filling hairline non-structural cracks (up to 0.5 mm wide) caused by shrinkage or expansion. Unlike coating and membrane types of waterproofing, which only form a surface barrier. **Estokote Crystalline**, in the presence of water, continues producing crystals and a lasting imperviousness to water.

**Estokote Crystalline has been tested by SIRIM BHD, in accordance to BS 1881 Part 122:1983, on Water Absorption Test BS 6920, on the suitability for contact with drinking water and complied with the specification in this data sheet.**

#### Uses

- R.C. flat roofs & gutters, retaining walls
- Nuclear power plants, tanks, tunnels, foundations, control rooms
- Subway tunnels & swimming pools
- Industrial plants, office buildings foundation, parking decks
- Basement floors and walls

#### Advantages

- SIRIM approved for use with potable water
- Cost effective & easy to apply
- Contains no chloride
- Penetrates concrete, seals capillary tracts and hairline cracks
- Waterproofing remains even if concrete surface is damaged
- Effective treatment for hydrostatic conditions
- Resists chemical attack of sewage and industrial wastes
- Resists de-icing salts
- Exterior and interior applications Instruction for use

#### Standard Compliance

- **BS 1881 Part 122:1983**
- **MS 1583: Part 1: 2003**
- **DIN 1048: Part 5:1991**

#### Physical Properties

Water Absorption Test BS 1881 Part 122	<1%
Potable Condition, MS 1583: Part 1 : 2003	Complied
Water Pressure Resistance Test (Pressure Applied on Negative Side @ 3 Bar for 72 hours) DIN 1048: Part 5:1991	Pass-No water penetration

#### Application Instructions

##### (A) Dry shakes for treatment to basement slabs

**Estokote Crystalline** can be dry sprinkled onto clean and pre-wetted **lean concrete** at the rate of 1.10 kg/m<sup>2</sup> immediately prior to the casting of the structural slabs. Application by dry sprinkling distribution shall be over the surface by hand. The thoroughly wetted down lean concrete surfaces shall be free of lying water before application of **Estokote Crystalline**.

##### (B) Dry shakes for newly poured concrete

Use **Estokote Crystalline** as it is, directly from container. Wearing rubber gloves, distribute the powder evenly by hand, over freshly poured concrete at the rate of 1.22 to 1.35 kg/m<sup>2</sup> before final floating operation. It is best to distribute the powder at ½ the recommended rate in one direction, and the other half at right angle to the first application. Keep hand as close as possible to the surface to prevent material from blowing away. For large areas, a rotary type spreader may be used. Float slab and trowel to final finish.

##### (C) Slurry coat for existing concrete

#### Mixing (Slurry coat)

One part of clean water shall mix with three parts of powder. Mix thoroughly with a slow speed drill equipped with a paddle. For best result, add the clean water to **Estokote Crystalline**, and not the reverse. For larger batches, mix with a mortar mixer. Do not mix more material than can be used in 20 minutes (24 °C, 50% R.H.). If mixture thickens, re-stir to reduce consistency. Do not add extra water.

#### Application

Use brush (synthetic bristle) or plaster sprayer for the application of **Estokote Crystalline** slurry coat at a rate of 0.85 to 1.00 kg/m<sup>2</sup>. Be sure to work slurry well into openings, rough surfaces, joints and routed out areas. Apply second coat at the rate of 0.5 to 0.6 kg/m<sup>2</sup> when required, when first coat has taken an initial set (usually within one hour). If first coat has dried out, moisten surface before applying second coat.

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## Curing and Protecting

Keep moist for a minimum of 24 hours after the application of **Estokote Crystalline**. After initial set, moist curing by continuous water spray. Treated surfaces shall be fog sprayed three to four times daily for 48-hour. For warmer climates, more frequent spraying may be required. It is important to keep the **Estokote Crystalline** moist to allow the crystal formation to occur. Use Estop Estocure curing compounds for the curing purpose. Protect surfaces from foot traffic for 48 hours or heavy traffic for 7 days. Protect **Estokote Crystalline** from extreme weather conditions such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application.

## Packing and Size

<b>Estokote Crystalline</b>	25kg / bag
	20kg / pail

## Coverage

Dry shake	1.22 – 1.35 kg/m <sup>2</sup>
Slurry coat	1.35 – 1.60 kg/m <sup>2</sup>

## Technical Support

Denka offers a technical support package to specifiers, end-users and contractors, as well as on site technical assistance.

## Storage

**Estokote Crystalline** should be stored in protected, dry areas. When left in original unopened package, **Estokote Crystalline** has a shelf life of 1 year.

## Precaution

**Estokote Crystalline** is alkaline and contain chemicals that may cause irritation to the eyes and skin. Wear goggles, rubber gloves and long sleeves when working with this product. Seek medical advice in the event of prolong irritation

## Additional Information

**Denka Construction Solutions Malaysia Sdn Bhd** also offers a wide range of complementary products, which includes waterstops, waterproofing products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spalled concrete are available.



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