

Estocrete HF

Heavy Duty Polyurethane Screed

Description

Estocrete HF is a bio-polyol based, monolithic, cementitious polyurethane troweled applied mortar with a thickness of 6-9 mm. It provides excellent resistance to aggressive chemicals, heavy impact and high temperature. It is dense and impervious and provides an anti-slip surface suitable for dry and wet areas where a a robust long-lived floor is required.

Uses

Estocrete HF is suitable for condition requiring the chemical resistance and easy to clean surface is required, such as :

- Food & Beverage Manufacturing
- Loading Bay
- Dairies Production
- Cold Storages, Chiller & Freezer
- Commercial Kitchens
- Pharmaceutical
- Chemical Plant Processing
- Meat, Fish & Poultry Processing

Features

- Impact resistance.
- Self-sealing.
- Seamless & hygienic finish, no crevices where dirt and bacteria can dwell.
- Temperature resistant -45°C to 120°C.
- Steam cleanable.
- Excellence chemical resistance.
- Easy to clean, low maintenance requirement.
- High abrasion resistance.
- Low odor during installation.
- Positive slip resistance.

Typical Properties

Items	Specifications
Appearance	Anti-slip aggregates visible
Fully Cured at 23°C	7 days
Applied Thickness	6 - 9 mm
Water Permeability	Nil - Karsten test (impermeable)
Shore D Hardness	80-84
Compressive Strength, N/mm ² (ASTM C-579)	>60.0
Flexural Strength, N/mm ² (ASTM C-580)	>15.0
Tensile Strength, N/mm ² (ASTM C-307)	>10.0
Impact resistance, in/lbs (ASTM C-4226)	160.0
Slip resistance (pendulum slip test)	Dry 100 Wet 40
Abrasion resistance (ASTM D4060 Taber abrader)	25 mg loss per 1000 cycles (1 Kg load using H22 wheels)
Bond Strength (Pull-off test), MPa (ASTM C-4541)	>2.5 (Concrete failure)
Temperature Resistance, °C	6 mm -20°C to 100°C 8 mm -40°C to 120°C 9 mm -45°C to 120°C
Thermal Expansion Coefficient (ASTM E 381, ASTM D-696, ISO 11359)	$\alpha >> 2.7 \times 10^{-5}$ per °C
Food Contact	No contamination

Substance Requirements

The concrete substrate should be a minimum of 25 N/mm², free from laitance, dust, oil, grease, loose material, and other contamination which impair adhesion. The substrate should be dry to 75 % RH as per BS 8204 and free from dampness and rising ground water pressure etc. The tensile strength of the substrate should exceed 1.5 N/mm². The maximum moisture content in the subfloor should not be more than 5%. Please take a great care and inspect the floor condition when applying this product on blast freezer. Crack may occur from below concrete substrate imperfection due to thermal drop. Crack can

be transferred to the PU concrete layer after the mechanical limit is exceeded.

Application Conditions

Ideal ambient, material and substrate temperature range are 15°C - 30°C to achieve best results. Application shouldn't be carried out if the temperature of the concrete is less than 10 °C or where the ambient relative humidity is greater than 85%. If the surface is clearly wet due to high relative humidity, the surface should be dried by means available.

Surface Preparation

Surface must be prepared by suitable mechanical means grinding, scarifying or as per the site requirement to ensure a perfect bonding with substrate.

- Remove all loose particles, dust using suitable mechanical means - industrial vacuum cleaner etc.
- Make grooves of 8 mm X 8 mm in size at approximately 100 mm distance parallel to the wall and adjacent to the doorways, covering not more than 20 m². Fill the grooves with the same material.
- Repair all imperfections substrate - pot holes with **Estopatch RSP**, cracks should be filled with **Estorex EP 10**. Flatness of the base should be checked for level to ensure that the specified thickness of treatment can be applied over the whole area.
- All the expansion & movement joints should be properly cut and maintained for terminations. The surface is allowed to dry thoroughly before the priming /scratch coat is applied.

Priming

Estocrete HF is self-priming system. For porous substrate use **Estocrete MF** Scratch coat. The primer system must be cure before applying next layer.

Mixing

- Add Part A and Part D (Pigment Pack) into mixing pail. Mixing with the blender with helical spinner for 30 seconds.
- Add Part B mixing with the blender with helical spinner for 30 seconds and Part C into mixing pail and mix for 30 seconds then add Part E (aggregate) Allow the contents to mix until aggregate is thoroughly "wet out" for 30 seconds.
- Compact and smooth the mortar using a hand trowel followed by rolling to bring up and saturate the resin. Allow to cure overnight.

Packaging

Estocrete HF Part A	: 2.90 kg
Estocrete HF Part B	: 3.00 kg
Estocrete HF Part C	: 13.5 kg
Estocrete HF Part D (pigment powder)	: 0.6 kg
Estocrete HF Part E (aggregate)	: 10 kg

Coverage Rate

Each set of **Estocrete HF** will cover approximately as follows:

- 2.5 m² for a thickness of 6 mm
- 1.87 m² for a thickness of 8 mm
- 1.66 m² for a thickness of 9 mm

Coverage rate is calculated based on a smooth surface and may vary based on the substrate roughness and other conditions.

Pot Life

Working time is 10-15 minutes at 30°C. All mixed products must be used within the pot life time limit, if the product is left in the container after mixing and not used, it may release hazardous fumes due to exothermic reaction.

Storage

Store in a dry place away from direct sunlight with temperatures between 25 °C - 30 °C.

Important Note

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Colour Stability

Estocrete HF is not colour fast and may change colour over time (exhibits in a yellowing effect). Colour change depends on the UV light and heat levels present and hence the rate of change cannot be predicted. This is more noticeable in light colour and blues but does not compromise the product's chemical resistance or physical characteristics.

Important

If any unusually long delay should arise, such as a break for lunch, it will be necessary to completely clean all mixing paddles and pails before ceasing operation. This is extremely important. Doing this will prevent the later contamination of the new batches of product with particles of partially cured material when the mixing operation starts again after the break. The presence of such particles would seriously affect the troweling and finishing of the floor.

Shelf Life

Part A and B have a shelf life of 12 months and must be protected from frost. Part C has a shelf life of 6 months and must be protected from humidity. Part E aggregate is relatively stable for a long period of time.

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