

PRODUCT NAME

# Cem-Kote® Flex ST



NSF/ANSI/CAN 61

Drinking Water System Components



## Flexible Cementitious Waterproofing

### MANUFACTURER

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### FEATURES

- **NSF/ANSI/CAN 61 - Drinking (Potable) Water Certified**
- Superior flexibility
- Bridges substrate crack up to 1.6 mm (1/16")
- Long term crack resistance
- Fast cure waterproofing
- Superior freeze/thaw resistance
- Excellent salt scaling resistance
- Effective protection against acid rain
- Self-curing
- Continuous water immersion possible
- Superior negative/positive waterproofing
- Breathable
- Salt resistant
- Easy mixing & application = Sprayable

### PRODUCT DESCRIPTION

#### Basic Use

*Cem-Kote Flex ST* waterproofing coating withstand Positive and Negative hydrostatic pressure exceeding 5 bar (50 m head of water) and are designed for Internal and External structural waterproofing of concrete and other mineral substrates.

*Cem-Kote Flex ST* is NSF/ANSI/CAN 61 Certified for drinking (potable) water. It is also used to waterproof structures below grade, tunnels, concrete slabs and balconies and patios.

*Cem-Kote Flex ST* is used "Open" wastewater structures (H<sub>2</sub>S freely escaping). See *Cem-Kote Flex CR PDS - System #1*

*Reinforcing Fabric HD* may have to be used throughout in New construction.

#### Composition and Materials

*Cem-Kote Flex ST* is a highly flexible, fibre-reinforced, breathable, cementitious slurry, consisting of dry Comp. A and liquid Comp. B.

### Limitations

Do not apply *Cem-Kote Flex ST* when the temperature is expected to be below 4°C (40°F) within 48 hours, or when rain is imminent. Follow Hot Weather concreting precautions when applying *Cem-Kote Flex ST* at temperatures above 25°C (77°F) or under sunny & windy conditions. For low temperature exposures, use *Cem-Kote Flex Plus*.

### Health and Safety

*Cem-Kote Flex ST* is nontoxic. Your skin might be sensitive to hydraulic cement, or the liquid additive. Use rubber gloves is recommended. Avoid contact with eyes and prolonged contact with skin. If contact occurs, flush immediately with water. Seek medical advice if irritation occurs. Harmful if digested. Keep product out of reach of children. **FOR INDUSTRIAL USE ONLY.** Consult MSDS for additional information.

### Color

Industrial Gray, Light Gray and White.

### Packaging

*Cem-Kote Flex ST* Premix Kit = Dry Comp. A 22.7 kg (50 lb.) bag + Liquid Comp. B 6.8 L (1.8 USG) plastic jug.

The volume of Comp. B may slightly vary, depending on color.

### Yield

*Cem-Kote Flex ST* yields 14.9 L (0.53 ft<sup>3</sup>) & covers approx. 9.31 m<sup>2</sup> @ 1.6 mm (100 ft<sup>2</sup> @ 63 mils) thickness per kit, applied in two (2) coats.

Using *Reinforcing Fabric HD* throughout requires min. 2.0 mm (80 mils) thickness of *Cem-Kote Flex ST* to cover the fabric. Coverage is reduced to 7.45 m<sup>2</sup> (89.4 ft<sup>2</sup>) per kit.

The actual coverage depends on surface roughness & thickness applied, and test is required to determine the actual coverage for the given substrate and application thickness.

### Storage and Transportation

*Cem-Kote Flex ST* when stored on pallets in a dry area, free from moisture & direct sunlight has a shelf-life of 12 months. Liquid Comp. B **must not freeze**. Packaged 40 kits per pallet.

### TECHNICAL DATA

Ultimate Tensile Strain (ASTM D412 Mod.) at 20°C, non-reinforced	20%
at 20°C, reinforced	30%
Ultimate Tensile Stress (ASTM D412 Mod.) at 20°C, non-reinforced	0.82 MPa (120 psi)
at 20°C, reinforced	3.05 MPa (440 psi)
Crack Spanning (Gemite ISO TP 005) at 20°C, non-reinforced	0.5 mm (20 mils)
at 20°C, reinforced	1.6 mm (63 mils)

Water Vapor Permeance, (ASTM E96) wet cup 1.6 mm,	697 ng/Pa.s.m <sup>2</sup> (12.8 perms)
Water Vapor Permeability, Engelfried-Klopfer Sd < 3 m	S <sub>d</sub> = 0.265 m
Salt Scaling Resistance, (ASTM C672)	excellent
Hydraulic Impermeability TTP 1411 (negative side), 2 mm thickness	water head >38.4 m (>126 ft)

A high porosity concrete block, coated with *Cem-Kote Flex ST*, "burst" at 38.4 m (126 ft) water head pressure with *Cem-Kote Flex ST* showing no sign of wetness.

## INSTALLATION

Follow Gemite's most recent application procedures and details. The detailing, fabric use, surface preparation & application should be consulted with Gemite's Technical Service before tender. The project specification supersedes the Gemite Guide Specification.

### Surface Preparation

The proper surface preparation is essential. Remove all deteriorated and loose concrete, form release agents, oil, grease, laitance, dust, dirt and efflorescence by dry or wet sandblast, shotblast, or high pressure water, min. 5,000 psi (34.5 MPa), or 3,500 psi (24 MPa) with sand brought to the nozzle.

Repair deeper areas using *Gem-Plast TC* or *Fibre-Patch OV*.

Remove all loose rust from any exposed reinforcing steel and apply two coats of *Fibre-Prime* rustproofing.

### Mixing

Thoroughly mix the liquid Comp. B prior to its use. Use paddle or helix mortar mixer, or heavy duty drill (400-600 RPM) with a suitable mixing paddle. Pour approx. 80% of the Comp. B into a clean mixer and gradually add the dry Comp. A, while mixing, until a smooth and lump free mix is obtained. Lumps will form if the dry material is added suddenly into the liquid. Add the remaining liquid, while mixing, to achieve the consistency required for a given application. A small amount of water can be added, if required, at higher ambient temperatures.

### Crack Treatment

Pre-fill any cracks larger than 2 mm (80 mils) with *Cem-Kote Flex ST*.

All cracks must be treated using *Cem-Kote Flex ST* & *Reinforcing Fabric HD*, or *Reinforcing Fabric NW* (in elevated slabs).

In below grade applications always use *Reinforcing Fabric HD*.

Apply a thin coat of *Cem-Kote Flex ST* approx. 25 cm (10") wide over the crack and embed a strip of *Reinforcing Fabric HD* (*NW*) into the wet *Cem-Kote Flex ST*.

Apply a second coat of *Cem-Kote Flex ST* to fully cover the *Reinforcing Fabric HD* (*NW*).

### Cove Installation

Install 40-50 mm (1.5-2") coves in vertical & horizontal corners (all 90° angles) using *Fibre-Patch OV*.

Apply a coat of *Cem-Kote Flex ST* and embed a strip of *Reinforcing Fabric HD*, followed by 2nd coat of *Cem-Kote Flex ST* to fully cover Reinforcing Fabric HD.

Proper cove treatment is essential to avoid water leaks.

### Application

Trowel or brush apply *Cem-Kote Flex ST* to a min. thickness of 1.6 mm (63 mils) in two (2) coats to a saturated surface damp concrete.

*Cem-Kote Flex ST* can be also spray applied using a hopper gun or positive displacement (carousel) pump, with a suitable spray nozzle. Each coat must be brushed to eliminate pinholes.

The second coat must be applied into a wet first coat, as soon as the first coat allows the application of the second coat. The time between the coats will depend on temperature, relative humidity, surface porosity, sun, wind, etc. The delayed application of the second coat could result in debonding.

If the first coat is left to dry overnight, clean the surface with water 10-14 MPa (1,500-2,000 psi) and let surface dry prior to application of an additional coat.

### Reinforcing Fabric

In new projects the *Reinforcing Fabric HD* may have to be used throughout. When using the *Reinforcing Fabric HD*, apply first a thin layer of *Cem-Kote Flex ST*, embed the *Reinforcing Fabric HD* into the 1<sup>st</sup> coat, and follow with the 2<sup>nd</sup> coat.

*Reinforcing Fabric HD* must be fully covered and must not protrude through the surface. The total min. applied thickness of *Cem-Kote Flex ST*, including the *Reinforcing Fabric HD*, must be 2 mm (80 mils).

### Curing

Cure *Cem-Kote Flex ST* by air drying for a minimum of 3 days prior to a continuous exposure to water under normal conditions 15-20°C and 70-80% RH. The curing time may have to be extended at low temperatures. Contact Gemite Products Technical service.

Protect fresh applications from rain, strong wind and intense sunlight for 12 hours.

When working under tarps at freezing temperatures use electrical heaters and "forced" venting. Do NOT use propane heaters to prevent "carbonation".

### Clean Up

All tools should be cleaned with water immediately after use. Cured material can only be removed mechanically.

### AVAILABILITY AND COST

*Cem-Kote Flex ST* is available worldwide. Contact Gemite Products Inc. for the name of the Representative/Distributor nearest you and pricing information.

### MAINTENANCE

None required.

### WARRANTY

A limited twelve (12) month Material Replacement Warranty is available. For complete details contact Gemite's Head Office.