



LOCTITE GeoSpray EX Geopolymer Mortar

WATER/WASTEWATER

LOCTITE GeoSpray EX geopolymer is a high-performance fiber reinforced mortar specifically designed for structural rehabilitation with extended working time while being pumped. This high-strength, ultralow porosity material is made from natural mineral polymers and industrial waste streams. LOCTITE GeoSpray EX is designed for application techniques including pouring, placing, or spraying.

BENEFITS

- › Provides physical properties associated with cement mortars, but with the chemistry similar to that of an engineered stone
- › Prevents cold joints between layers from its unique chemical nature; compatible with LOCTITE GeoSpray geopolymers for structural pipe rehabilitation
- › Extended working time while pumping
- › Ideally suited for pipe invert paving and protection
- › Safe and sustainable

TEST METHOD	DURATION	LOCTITE GeoSpray EX
Compressive Strength ASTM C-39/C-109	1 Day 28 Days	Min. 2,500 psi / 17 MPa Min. 8,000 psi / 55 MPa
Flexural Strength ASTM C-78	7 Day 28 Days	750 psi / 5.2 MPa 1500 psi / 10.3 MPa
Bond Strength to Concrete ASTM C-882	1 Day 28 Days	Min 900 psi / 6.2 MPa Min. 2,500 psi / 17 MPa
Set Time ASTM C-807 Initial Cure Time	Initial Set Final Set	60 - 75 Minutes 90 - 110 Minutes
Freeze Thaw Durability ASTM C-666	300 Cycles	100% Zero loss
Shrinkage ASTM C-1090	28 Days	0.00% @ 65% R. H.
Tensile Strength ASTM C-496	28 Days	Min. 800 psi / 5.5 MPa

Data shown above reflects results in laboratory controlled conditions. Reasonable variation of data to be expected.

APPLICATIONS:

- › Sewers
- › Culverts
- › Pipes
- › Channels
- › Sediment Basins
- › Tunnels

TYPICAL USES:

LOCTITE GeoSpray EX geopolymer can be used for rehabilitation of pipes and structures in the Civil Infrastructure and Industrial Markets.





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COMPOSITION

A proprietary micro-fiber reinforced ultra dense geopolymer mortar designed for mechanical pumping and spraying. LOCTITE GeoSpray EX is an inorganic polymeric system that adheres strongly to prepared cement surfaces and itself.

CHARACTERISTICS

A dark grey mortar with near-zero porosity. Largest particle size: 3.0 mm.

YIELD AND COVERAGE

Yields 0.43 ft³ (0.012 m³) per 50 lbs. For one 50lb bag, coverage is 10.3 ft² at 0.5" depth (0.96m² per 12mm depth)

PACKAGING

LOCTITE GeoSpray EX is available in 50lb (22.7kg) sealed bags or in 2,000lb (908kg) super sacks.

CLEANING AND PREPARATION

The surface shall be thoroughly cleaned. Use high-pressure water blasting with a minimum of 3500 psi (or as required by local provision) to clean and free all foreign material, including dirt, grit, roots, grease sludge and other materials that may be attached to the surface. All loose or defective brick, grout, should be removed prior to application. When grease and oil are present, an approved detergent, muriatic acid or hot water may be used with the high-pressure cleaning as needed. All materials resulting from the cleaning of the pipe shall be removed prior to application. Well adhered Bitumen coatings on CMP pipe need not be removed. Active infiltration should be sealed to the greatest extent possible prior to application. The surface existing host structure can be damp at installation.

MIXING

Do not exceed a 0.17 w/c ratio. Always add LOCTITE GeoSpray EX to the water. Follow normal industry standards for batching and mixing.

WORK TIME

Working time is 60 - 90 minutes at 80°F (27°C).

APPLICATION

LOCTITE GeoSpray EX should be pumped from a horizontal mix auger cavity via an adjustable rotor stator pump through a hose for delivery to the appropriate application device.

FINISHING

If necessary, troweling of materials can begin following the spray application. Initial troweling shall be in an upward motion, to compress the material into voids and solidify the pipe wall. Take precautions not to over trowel.

LOCTITE GeoSpray EX can be finished using a magnesium float, wood float, sponge float, broom or brush, depending on the surface texture desired. Do not use a steel trowel.

CURING

Optimum curing occurs in a moist and moderate environment. General underground conditions are usually adequate to meet this requirement. If dry and/or hot conditions are present, the use of a wind barrier and fogging spray will be required. During hot weather conditions, chilled water may be used to mix LOCTITE GeoSpray EX geopolymer. LOCTITE GeoSpray EX geopolymer material should be maintained at a temperature lower than 90°F (32°C). Standard industry practices may be used to maintain proper temperature.

Alternatively, LOCTITE GeoSpray EX should not be placed when the temperature in the curing environment is below 37°F (3°C). During cold weather conditions, heaters, thermal breaks, and other methods may be used to maintain temperature above that threshold. Refer to the GeoTree Cold Weather manual.

QUALITY CONTROL & MATERIAL TESTING

For each section length designated by the owner in the contract documents or purchase order, LOCTITE GeoSpray EX will be collected at the end of the hose near the discharge point. Use 4" by 8" cylinders in accordance with Test Method ASTM C 39/39M.

HEALTH & SAFETY

LOCTITE GeoSpray EX is a cementitious powder, is alkaline, and may cause significant skin and eye irritation. Adequate health and safety precautions should be observed during all storage, handling, use and drying periods. For safety and health precautions, reference the current version of the Safety Data Sheet for LOCTITE GeoSpray EX. When using LOCTITE GeoSpray EX in a confined space or closed area, consult the current OSHA or ANSI bulletins on safety requirements. Do not take internally. If swallowed, call a physician immediately.

STORAGE

LOCTITE GeoSpray EX geopolymer should be stored in a cool, dry location. Stored under proper conditions, shelf life is one year.

WARRANTY

GeoTree Solutions warrants this product to be free of defects in material and manufacturing. Should the product prove to be defective, the liability to GeoTree Solutions shall be limited to replacement of the product, exfactory. GeoTree Solutions makes no warranties as to merchantability or fitness for a particular purpose. This warranty is in lieu of all other warranties expressed or implied. Users should determine the suitability of the product for the intended use and assume all risk and liability in connection therewith.

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Before using any GeoTree product, the user must review the most recent version of the product's technical data sheet, safety data sheet and other applicable documents, available at www.geotreesolutions.com or by calling +1.855.655.6750.

