

## LOCTITE GeoStrong Repair Mortar

### Fast-setting Geopolymer Mortar for Concrete Repair

BRIDGES + ROADWAYS & BUILDINGS + PARKING FACILITIES

**LOCTITE GeoStrong Repair Mortar** is a one-component, non-shrink, fast-setting geopolymer mortar designed for repairing horizontal, vertical and overhead concrete surfaces where high strength is desired.

LOCTITE GeoStrong mortar is a corrosion-resistant geopolymer mortar that allows for fast application, up to three inches in one layer, with fast finishing and reduced time between lifts.

#### TYPICAL USES

LOCTITE GeoStrong Repair Mortar can be used for fast repairs to concrete and mortar surfaces below, on, or above grade in Civil Infrastructure and Industrial applications, including:

- › Bridges
- › Buildings
- › Parking structures
- › Chemical plants

#### TYPICAL USES

- › Geopolymer reaction minimizes/eliminates cold joints between layers
- › High early and ultimate strength
- › High tensile and flexural strength
- › Highly chemical resistant



| PROPERTY/ TEST METHOD                    | INFORMATION                | METHOD                                                                        |
|------------------------------------------|----------------------------|-------------------------------------------------------------------------------|
| Compressive Strength<br>ASTM C-39/C-109  | 1 Day<br>7 Days<br>28 Days | Min. 2,500 psi / 17 MPa<br>Min. 5,500 psi / 38 MPa<br>Min. 8,000 psi / 55 MPa |
| Flexural Strength<br>ASTM C-78           | 7 Day<br>28 Days           | 750 psi / 5.2 MPa<br>1500 psi / 10.3 MPa                                      |
| Modulus of Elasticity<br>ASTM C-469      | 28 Days                    | 3,420,000 psi / 23,580 MPa                                                    |
| Bond Strength to Concrete<br>ASTM C-882  | 1 Day<br>28 Days           | Min 900 psi / 6.2 MPa<br>Min. 2,500 psi / 17 MPa                              |
| Set Time ASTM C-807<br>Initial Cure Time | Initial Set<br>Final Set   | 60 - 75 Minutes<br>90 - 110 Minutes                                           |
| Freeze Thaw Durability<br>ASTM C-666     | 300 Cycles                 | 100%<br>Zero Loss                                                             |
| Shrinkage<br>ASTM C-1090<br>ASTM C-157   | 28 Days<br>28 Days         | 0.00% @ 65% R. H.<br>0.15% @ 65% R. H.                                        |
| Tensile Strength<br>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.



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#### COMPOSITION

A proprietary micro-fiber reinforced ultra - dense eopolymer mortar designed for LOCTITE GeoStrong. LOCTITE GeoStrong 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 ft<sup>3</sup> (0.012m<sup>3</sup>) per 50 lbs. For one 50lb bag, coverage is 10.3 ft<sup>2</sup> at a 0.5" depth (0.96m<sup>2</sup> per 12mm depth).

#### PACKAGING

LOCTITE GeoStrong is available in 50lb (22.7kg) sealed bags.

#### CLEANING AND PREPARATION

The surface shall be thoroughly cleaned. Remove all deteriorated concrete, all foreign material, including dirt, grit, grease, sludge or other material that may be attached to the existing surface or inhibit bonding. Mechanically abrad the surface to achieve a profile in accordance with ICRI guidelines for surface prep. When grease and oil are present, an approved detergent or muriatic acid shall be used integrally with the high pressure cleaning water. All materials resulting from the cleaning of the surface shall be removed prior to application of GeoStrong.

#### MIXING

Always add material to water.

Add approximately 7 pints of potable water to the mixing container for each 50 lb bag of LOCTITE GeoStrong repair mortar for overhead patching and applications that require a stiff, low slump material. For applications requiring a more flowable material up to 9.5 pints per 50 lb bag can be used.

Add the powder to the water while continuously mixing with a low speed drill (400-600 rpm) and mixing paddle or mortar mixer. Mix to uniform consistency - a maximum of 3 minutes. Adjust water dosage, if necessary, to achieve desired consistency. Do not over water.

#### WORK TIME

Work time is 60 - 45 minutes at 80°F (27°C).

#### APPLICATION

Once mixed to proper consistency and homogeneity, LOCTITE GeoStrong must be worked into the prepared substrate filling all voids.

Pre-wet substrate to saturated dry (SSD) with no standing water during application. Intimate contact with the substrate is required to achieve good bond. Scrub the material into the substrate, vibrate, or pump under pressure.

In horizontal applications, immediately place the repair mortar from one side of the prepared area to the other. Work the material firmly in the bottom and sides of the path to form a bond.

LOCTITE GeoStrong has an ultra-low abrasion rate on hoses and equipment; they will last much longer, with fewer interruptions and remobilizations.

#### FINISHING

In vertical applications, initial troweling shall be in an upward motion to compress the material into voids and solidify the vertical wall. Take precautions not to overwork the surface.

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

#### CURING

Optimum curing occurs in a moist and moderate environment. Follow ACI recommendations for curing.

During cold weather conditions, heaters, thermal breaks, and other methods may be used to maintain temperature above that threshold.

#### STORAGE

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

#### CONFORMANCE

This product conforms to ASTM C-928.

#### HEALTH & SAFETY

LOCTITE GeoStrong is a cementitious powder that 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 GeoStrong. When using LOCTITE GeoStrong 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.

#### 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 shall be limited to replacement of the product, ex-factory.

GeoTree 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](http://www.geotreesolutions.com) or by calling +1.855.655.6750.

