

LOCTITE®



GEOTREE

GEOPOLYMER MATERIALS



Henkel Adhesive Technologies



GEOTREE SOLUTIONS OFFERS A LEADING RANGE OF GEOPOLYMER MATERIALS.

GeoTree Solutions is a global leader in the development, manufacturing, and commercial application of geopolymer materials. Our best-in-class products are used in a wide variety of applications to repair and rehabilitate Civil, Industrial, Commercial, and Underground infrastructure.

In 2011, GeoTree Solutions developed and introduced the first geopolymer mortar material specifically designed for trenchless wastewater rehabilitation: LOCTITE GeoSpray geopolymer mortar. The development of geopolymers for large-scale industry-applicable systems required the creation of a “just add water” mixture that avoided the necessity of alkaline solutions used to create the proper reaction conditions. This contractor-friendly breakthrough paved the way for the rapid adoption of the more environmentally responsible class of materials that exhibit superior physical performance to ordinary Portland cement.

More than 100 million pounds of GeoTree geopolymer mortar have been applied successfully around the world in hundreds of unique projects.

THE RANGE

LOCTITE GeoSpray geopolymer is the flagship of GeoTree's geopolymer product line. The fiber reinforced mortar is specifically designed for structural rehabilitation of large diameter pipes commonly used in stormwater and sanitary sewer construction. The LOCTITE GeoSpray material has superior physical performance properties compared to other spray applied liner systems. The unique LOCTITE GeoSpray mortar chemistry provides superior flexural and compressive strength, as well as ultra-low porosity and high self-bonding which eliminates cold joints. LOCTITE GeoSpray geopolymer can be applied using a range of techniques such as pouring, troweling, spraying, or centrifugal/spin casting.



LOCTITE GeoSpray HCE geopolymer is the next tier in material performance. Formulated to be highly resistant to microbial-induced-corrosion (MIC) while easily and consistently sprayable, LOCTITE GeoSpray HCE geopolymer has all the proven benefits and physical properties of LOCTITE GeoSpray. Loctite GeoSpray HCE exceeds the requirements for DIN 19753 XWW4 for corrosion protection. LOCTITE GeoSpray HCE is ideally suited for sanitary sewers, manholes, and related structures.



LOCTITE GeoSpray 61 geopolymer is formulated for the rehabilitation of pipes and tanks in drinking water applications and meets the requirements of NSF/ANSI/CAN 61 & 372. This material is certified for pipes with an inner diameter of seven (7) inches or greater, and for tanks larger than 300 gallons.





GP Flowable Grout is a fiber-reinforced geopolymer material designed as a flowable fill and grout for civil structures. This ultralow porosity material is made from natural mineral polymers and industrial waste streams. GP Invert Repair Mortar can be pumped long distances, has an extended working time, and quickly sets to superior physical properties.



LOCTITE GeoStrong Repair Mortar is a one component, non-shrink, fast-setting geopolymer mortar intended for repairing horizontal, vertical, and overhead concrete surfaces. A corrosion resistant cementitious powder, LOCTITE GeoStrong is used on grade, above, or below grade to fix defects like spalled concrete in Civil Infrastructure and Industrial applications. It also enables quick application of FRPs without having to wait 7 days.



LOCTITE GeoPlug water-stop is a rapid setting water infiltration patch. GeoPlug powder immediately stops leaks and is a temporary repair to stop active flow of water until a structural repair can be completed.



LOCTITE GeoRoc geopolymer is a MSHA tested, strength enhancing mine sealant formulated for surface reinforcement and weathering protection of soils, rock, and coal strata. The inorganic polymeric system has a Class A Flamespread (ASTM E162) and adheres strongly to cement surfaces.

COMPARISON TABLE

CONVEYANCE / LOCATION / APPLICATION	FULL REHABILITATION MATERIAL	INVERT / FLOOR	PATCHING MATERIAL
Storm water (culverts, manhole, catch basins, spill apron, CSO)	LOCTITE GeoSpray	GP Flowable Grout	GeoSpray
Sanitary / Wastewater / Stormwater (manholes / sewers / CSO) with low pH	LOCTITE GeoSpray HCE	GP Flowable Grout	LOCTITE GeoSpray HCE
Potable water (aqueducts / pipelines, tunnels, tanks)	LOCTITE GeoSpray 61	GP Flowable Grout	LOCTITE GeoSpray 61
Tunnels	LOCTITE GeoSpray/ LOCTITE GeoStrong	GP Flowable Grout	LOCTITE GeoSpray/LOCTITE GeoStrong
Mining Applications (structure, lining, MSHA fire rated)	LOCTITE GeoRoc	GP Flowable Grout	LOCTITE GeoRoc
Vertical Concrete Structures	LOCTITE GeoStrong	GP Flowable Grout	LOCTITE GeoStrong
Cast in Place / Precast Structures / Box Culverts	LOCTITE GeoSpray	GP Flowable Grout	LOCTITE GeoSpray/LOCTITE GeoStrong
Vehicular / Pedestrian underpass	LOCTITE GeoStrong	GP Flowable Grout	LOCTITE GeoStrong
Wear/Abrasion Surface	LOCTITE GeoSpray	GP Flowable Grout	LOCTITE GeoSpray/LOCTITE GeoStrong

Engineered

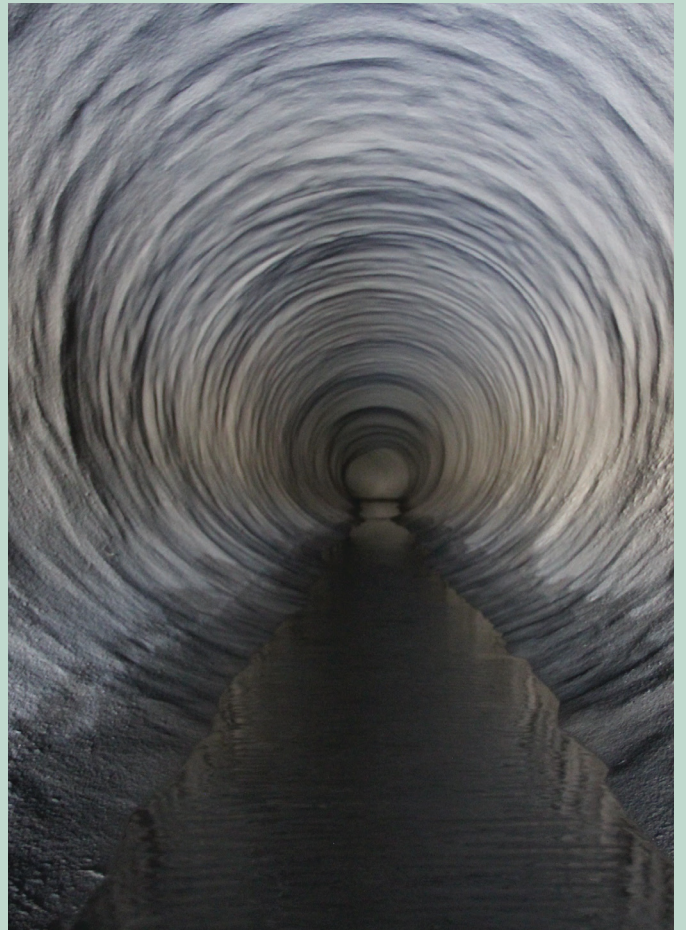
- Highest flexural strength repair mortar: 1500 psi (10.3 MPa) at 28 days using ASTM C78
- High early and ultimate strength
- Unique chemistry promotes self-bonding – Eliminating cold joints between applications
- Inherently resistant to H₂S corrosion mechanisms
- Adapts to any shape including: bends, curves and angles
- Most extensive third-party testing in the industry
- WRc Approved structural lining system

Cost Efficient

- Typically lower installed lifecycle cost compared with alternative rehabilitation methods including: CIPP, slipline and spiral wound
- The larger the diameter the bigger the cost savings
- Minimal installation footprint
- Quick return to service with lower by-pass costs
- Flexible by-pass options tuned to your project needs
- Eliminate excavation with equipment that fits through 20-inch manholes

Safe & Sustainable

- Styrene free with no leachable toxins
- Meets and passes NSF/ANSI/ CAN 61 & 372
- WRAS certification for potable water
- Third-party evaluation from EPA and other independent laboratories
- Reduces greenhouse gas emissions
- Passes Eco-toxicity testing



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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 by calling **+1.855.655.6750** or via email **GeoTree-Info@henkel.com**

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