

Milliken Infrastructure

GeoPlug™

Rapid Set Geopolymer Mortar



The GeoPlug™ system is a rapid setting water infiltration patch. GeoPlug mortar is uniquely designed to quickly fill, plug and restore blemishes in host pipes during or prior to rehabilitation. GeoPlug mortar immediately stops leaks in corrugated metal pipe, precast concrete pipe, tanks, floors, wells, manholes, pump station and similar structures. GeoPlug mortar is a temporary repair to stop active flow of water until a structural repair can be completed.

Benefits

- Rapid setting fill that expands in to holes and crack
- Easily mixed and applied
- Low cost solution when compared to chemical grouts
- 98% post-industrial recycled materials

Typical Uses

GeoPlug mortar can be used to immediately stop leaks in structures, such as:

- Corrugated metal pipe
- Precast concrete pipe
- Pump stations
- Tanks
- Floors
- Wells
- Manholes

Storage

GeoPlug mortar shall be stored in a cool, dry location. Stored under proper conditions, shelf life is one year.

MATERIAL DATA	INFORMATION	METHOD
GeoPlug Mortar	40 lb. (18 kg) bags	
Working Time	5 to 8 minutes at 80°F (27°C)	
Working Temp.	50°F to 95°F / 10°C to 38°C	
Compressive Strength	540 psi (3.70 MPa) 1hr 640 psi (4.40 MPa) 3hr 700 psi (4.80 MPa) 5hr 780 psi (5.40 MPa) 24hr	ASTM C-109

Composition

A proprietary geopolymer patch material. Powder mortar is fine light brown powder. Combined with potable water creates a moldable pliable putty.

Yield and Coverage

Coverage will vary based on application method and thickness.

Packaging

GeoPlug geopolymer is available in ready to mix 40 lb. (18.2kg) containers.

Mixing

GeoPlug geopolymer only needs a small amount of clean water added to the powder until the material becomes a workable putty. This is achieved by adding 2 parts water to 8 parts powder by volume. GeoPlug geopolymer is designed to set quickly so do not mix more material than can be placed in 5 minutes.

Work Time

GeoPlug geopolymer starts working the moment water is introduced. Once in place. GeoPlug geopolymer will begin to stiffen in 1-2 minutes and will lose pliability and workability in 3-5 minutes. Work time is approximately 5 to 8 minutes at 80°F (27°C)

Additional water will NOT retard or prolong workability time. GeoPlug geopolymer requires continual mixing or agitation until it is applied, and continues to cure after it is in place.

Application

GeoPlug geopolymer should be applied when material becomes warm and putty like. Press material into patch area by hand or with trowel and hold until patch becomes hard. To stop infiltration water, seal crack from top to bottom. Continue this process until the patch area is

completely filled with GeoPlug geopolymer. Once area to be repaired is filled with putty, dust surface with dry GeoPlug geopolymer mortar to set putty faster and assure leaking has completely stopped.

In hot weather above 85°F (30°C) GeoPlug geopolymer will set faster and should be protected from heat. Use cold water to delay setting and give more working time.

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

In cold weather below 50°F (10°C) GeoPlug geopolymer may set slower. Warm unmixed GeoPlug powder and mix with warm water to accelerate set.

Excess material should be wiped off the repaired area while smoothing and blending the compound into the surrounding surface.

Curing

No special curing process is required. Once material is hardened, curing will be complete in less than 30 minutes.

Health & Safety

Before using GeoPlug geopolymer, read the Safety Data Sheet (SDS) for safe use, health and physical hazard information. An SDS sheet was provided with the material when it was delivered. GeoPlug geopolymer, is a cementitious powder and may cause significant skin and eye irritation. Directions for treating these problems are clearly listed on the SDS sheet. This sheet contains health and safety information for the protection of workers and customers.

The manufacture recommends that the SDS sheet be available at the work site at all times for access to these treatment solutions if needed. Use with adequate ventilation. Do not take internally. Keep out of reach of children.

Warranty

Milliken Infrastructure Solutions, LLC warrants this product to be free of defects in material and manufacturing. Should the product prove to be defective, the liability to Milliken Infrastructure Solutions shall be limited to replacement of the product, ex-factory. Milliken Infrastructure 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.