Mainstay® GeoSpin™

Geopolymer Repair Mortar

Madewell®
RESTORE. PROTECT. SUSTAIN.

FEATURES/BENEFITS

LOW PERMEABILITY	NON SHRINK/CRACK RESISTANT
HIGH EARLY AND ULTIMATE STRENGTH	ECO-FRIENDLY
EASY TO USE AND FINISH	HIGH BUILD
WATERPROOFS/DAMP-PROOFS	RESTORES DETERIORATED SURFACES

PRODUCT DESCRIPTION

MAINSTAY GeoSpin is a special blend of cement, microsilica, thermoplastic fiber, densifiers, admixtures, and other modifiers that produces a high strength and low permeability geopolymer repair mortar. **MAINSTAY GEOSPIN** is typically used to repair corrugated metal pipes and culverts that suffer from corrosion damage. Composed, in part, of recycled materials, **MAINSTAY GEOSPIN** boasts a low carbon footprint and is a highly sustainable and environmentally friendly product. **MAINSTAY GEOSPIN** has excellent corrosion resistance properties that protect against further deterioration of the drainage pipe or culvert. **MAINSTAY GEOSPIN** cures up to 10,000 psi compressive strength, increasing structural integrity and essentially creating a pipe within a pipe, thus providing a low cost alternative to open-cut pipe replacement. **MAINSTAY GEOSPIN** stops groundwater infiltration, seals leaks, and resists hydrostatic pressure. It can be applied up to five inches to corroded pipes that have rusted through and expose the surrounding soil.

PRODUCT DATA

COMPOSITION:

A proprietary mixture of special cements, silica fume, thermoplastic fibers, and modifiers.

COLOR:

Dark gray.

YIELD:

.54 cubic feet (ft^3) per 65 pound (lb) bag when mixed correctly.

COVERAGE:

Approximately 13 square feet (ft^2) per bag at 1/2". Allowances should be made for waste.

THICKNESS:

Depends on the application. 1" is generally sufficient for smoothing concrete that has experienced surface attack (exposed aggregate). Minimum thickness is usually 1/2". Consult a Mainstay Technical Representative for specific recommendations.

PACKAGING:

Normally stocked in 65-lb bags.

SURFACE PREPARATION:

Prepare surfaces to be repaired by Low Pressure Water Cleaning (LP WC, 4,000 psi minimum), abrasive blasting, hand, or power tool cleaning to remove all unsound concrete, contaminants, dirt, debris, and/or deteriorated reinforcing steel. Refer to the International Concrete Repair Institute (ICRI) technical guideline titled *Surface Preparation Guidelines For The Repair Of Deteriorated Concrete Resulting From Reinforcing Steel Oxidation* and/or contact a Mainstay Technical Representative for information on removal techniques that are best for your application. Surfaces should have a minimum ICRI Concrete Surface Profile (CSP) #5 (preferably with aggregate exposed) and should be inspected for soundness prior to the application of **MAINSTAY GEOSPIN**. Saturate all surfaces thoroughly with clean water and allow to surface dry just prior to the application of **MAINSTAY GEOSPIN**.

MIXING:

Add 1.2 gallons of clean water per 65 lb bag. Mix thoroughly using a gasoline, electric, or hydraulically powered paddle-type mixer.

WORKING TIME:

Approximately 30 minutes at 80° Fahrenheit (F). The working time will be extended at lower temperatures and shortened when higher.

APPLICATION:

MAINSTAY GEOSPIN is typically applied centrifugally using the Madewell Horizontal Mortar Spinner & Chain Puller. This machine pulls a load rated chain using a uniquely constructed air motor, gear, and sprocket set up. The use of a chain for this application means that the pulling device is able to retract long lengths (as much as several hundred feet) of mortar hose along with the mortar spinner. **MAINSTAY GEOSPIN** can also be applied by low to medium velocity wet mix shotcrete equipment (pneumatic spray) or by hand using a trowel. Application thicknesses up to 5" in single or multiple passes are possible depending on the amount of water added, the condition of the surfaces being treated, and jobsite conditions. Consult a Mainstay Technical Representative for information regarding equipment that is best suited for your job.

Finishing:

In most culvert lining applications, finishing is not usually required. **MAINSTAY GEOSPIN** can be finished using a steel trowel, wood float, sponge float, broom, or brush, depending on the surface texture desired.

Curing:

MAINSTAY GEOSPIN should be kept moist for the first 72 hours after placement.

Clean Up:

Clean equipment and tools with clean tap water.

Delivery & Storage:

Check containers for damage, and verify quantities before accepting shipments. Store **MAINSTAY GEOSPIN** in a cool, dry place.

Shelf Life:

1 year, depending on storage conditions, subject to re-inspection thereafter.

Safety:

KEEP OUT OF REACH OF CHILDREN.

FOR INDUSTRIAL USE ONLY.

MAINSTAY GEOSPIN contains portland cement and chemicals that *MAY CAUSE EYE, SKIN, RESPIRATORY, OR NERVOUS SYSTEM SENSITIZATION*. Adequate health and safety precautions should be observed during all storage, handling, use, and drying periods. For best results and safest usage, user is specifically directed to consult the current "Material Safety Data Sheet" for this product. When using this product in a confined space or closed area, consult the current the OSHA or American National Standards Institute (ANSI) bulletins on safety requirements. Do not take internally. If swallowed, call a physician immediately. Keep away from open flame, and keep containers tightly closed when not in use.

Warranty:

All technical data, recommendations, and services are rendered by the Seller gratis. They are based on technical data that the Seller believes to be reliable and are intended for use by persons having skill and knowledge at their discretion and risk. Seller assumes no responsibility for results obtained or damages incurred from their use by the Buyer whether as recommended herein or otherwise. Such recommendations, technical advice, or services are not to be taken as a license to operate or intended to suggest infringement of any existing patent. MADEWELL PRODUCTS CORPORATION MAKES NO GUARANTEE OR WARRANTIES EXCEPT AS OTHERWISE PROVIDED IN WRITING AND DISCLAIMS ANY AND ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Compressive Strength ASTM C-109	24 hours 28 days	3,000 psi 10,000 psi
Flexural Strength ASTM C-293	24 hours 28 days	535 psi 1,505 psi
Tensile Strength ASTM C-496*	24 hours 28 days	330 psi 910 psi
Freeze/Thaw ASTM C-666	323 cycles	No Visible Damage
Shrinkage ASTM C-596	28 days @ 90% Rh	0%
Bond Strength ASTM C-882*	28 days	3,440 psi
Density		135 lbs/ft^2

*Uniaxial tensile bond strength should achieve a minimum of 1 Newton/mm^2 (145 psi) over a sound, properly prepared substrate. However, bond is highly dependent on degree of surface preparation and substrate strength.