

Mainstay® ML-72™

Sprayable Microsilica Restoration Mortar



FEATURES/BENEFITS

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

PRODUCT DESCRIPTION

MAINSTAY ML-72 is a special blend of portland cement, microsilica, thermoplastic fiber, densifiers, admixtures, and other modifiers that produces a high strength and low permeability mortar for the rehabilitation of deteriorated concrete structures. MAINSTAY ML-72 produces excellent adhesion to properly prepared new and existing concrete, brick, or steel surfaces. MAINSTAY ML-72 can withstand corrosive environments with a pH of 3 or higher, restores structural integrity, seals rough, deteriorated surfaces, and resists external hydrostatic water pressure. MAINSTAY ML-72 is suitable for permanent water immersion service.

MAINSTAY ML-72 can be used to repair vertical, horizontal, and overhead surfaces of deteriorated steel and concrete structures such as manholes, lift stations, wet wells, sewer pipes, culverts, pits, sumps, trenches, tunnels, bridges, piers, or any structure that has experienced deterioration from exposure to aggressive environments.

PRODUCT DATA

COMPOSITION:

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

COLOR:

Dark gray.

YIELD:

0.54 cubic feet (ft³) per 65-pound (lb) bag when mixed correctly.

COVERAGE:

Approximately 13 square feet (ft²) 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. Also available in 2,000-lb and 3,000-lb bulk sacks.

SURFACE PREPARATION:

Surfaces can be prepared by Low Pressure Water Cleaning (LP WC 4,000 psi minimum), dry or wet abrasive blasting, hand, power tool cleaning, acid etching, or any effective combination of these methods to remove all unsound concrete, contaminants, dirt, debris, and/or deteriorated reinforcing steel. Refer to the International Concrete Repair Institute (ICRI) Technical Guideline No. 310.2R "Selecting and Specifying Concrete Surface Preparation for Sealer, Coatings, Concrete Overlays, and Concrete Repair" 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 ML-72. Saturate all surfaces thoroughly with clean water and allow to surface dry just prior to the application of MAINSTAY ML-72.

MIXING:

Add up to 1.2 gallons of clean water per 65-lb bag. Mix thoroughly using a gasoline, electric, or hydraulically powered paddle-type mixer. Additional water, up to 1 pint per bag MAXIMUM, may be added to increase workability. However, physical strengths will be reduced accordingly. **Trial batches and testing concrete materials are recommended before construction start up.**

WORKING TIME:

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

APPLICATION:

Saturate all surfaces thoroughly with clean water and allow to surface dry just prior to the application of MAINSTAY ML-72. MAINSTAY ML-72 can be applied by low to medium velocity wet mix shotcrete equipment (pneumatic spray) or by hand using a trowel. MAINSTAY ML-72 can also be applied to round struc-

tures using spincasting equipment such as the Mainstay Mortar Spinner for vertical applications or the Mainstay Horizontal Spinner and Cable Puller for horizontal applications. Application thicknesses up to 5" in a single or multiple passes are possible depending on the amount of water added, the condition of the surfaces being treated, and jobsite conditions. A variety of piston, systolic, and rotor/stator pumps may be used depending on job requirements and desired production rates. Consult a Mainstay Technical Representative for information regarding equipment that is best suited for your job.

FINISHING:

MAINSTAY ML-72 can be finished using a steel trowel, wood float, sponge float, broom, or brush, depending on the surface texture desired. If **MAINSTAY ML-72** is to be top-coated, it is recommended that the surface be finished to a smooth, somewhat grainy texture using a sponge or wood float.

CURING:

If applicable, **MAINSTAY ML-72** should be topcoated immediately after finishing or as soon as the surface becomes firm to the touch. If not top-coated, no special curing requirements are necessary when applied in moist subterranean structures. When placed under fast drying conditions (in direct sunlight, high winds, or high tempera-

tures), **MAINSTAY ML-72** may be treated with a curing compound or wetted occasionally during the first 24 hours of cure to slow the evaporation of mix water.

CLEAN UP:

Clean equipment and tools with clean tap water.

DELIVERY & STORAGE:

Check containers for damage, and verify quantities before accepting shipments. Store **MAINSTAY ML-72** in a cool, dry place.

ADDITIONAL INFORMATION:

Go to www.madewell.net/manhole-rehabilitation/manhole-rehab-resources for Application Guides and Technical Bulletins.

SHELF LIFE:

1 year, depending on storage conditions, subject to reinspection thereafter.

SAFETY:

KEEP OUT OF REACH OF CHILDREN.

FOR INDUSTRIAL USE ONLY.

MAINSTAY ML-72 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 Safety Data Sheet for this product. When using this product in a confined space or closed area, consult the current Occupational Safety and Health Administration (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	> 500 psi > 1,500 psi
Shrinkage ASTM C-596	28 Days @90%RH	0%
Freeze/Thaw ASTM C-666	323 Cycles	No Visible Damage
Tensile Strength ASTM C-496	28 Days	> 900 psi
Bond Strength ASTM C-882	28 Days	> 3,400 psi
Bond Strength ASTM D-7234	28 Days	Substrate Failure
Density		135 lbs/ft ²