

# Mainstay® ML-72HP™

## Horizontal Pipe Restoration Mortar



### FEATURES/BENEFITS

HIGHLY IMPERMEABLE	HIGH BUILD
SPIN-CAST APPLICATION	NON SHRINK/CRACK RESISTANT
WATERPROOFS AND SEALS	STRUCTURAL REINFORCEMENT
HIGH EARLY AND ULTIMATE STRENGTH	HIGH FLEXURAL AND BOND STRENGTH

### PRODUCT DESCRIPTION

**M**AINSTAY ML-72HP is a reinforced blend of portland cement, microsilica, densifiers, admixtures, and other modifiers that produces a high strength and low permeability mortar typically applied by centrifugal application within underground concrete, brick and galvanized corrugated metal pipe (CMP). MAINSTAY ML-72HP provides a uniform, waterproof surface that is extremely dense, abrasion resistant and highly impermeable, while providing excellent adhesion to the substrate. With superior compressive, flexural and tensile strengths and 50 year design life, MAINSTAY ML-72HP can help restore structural integrity to deteriorated underground concrete structures and corrugated metal pipe quickly and economically.

### PRODUCT DATA

#### COMPOSITION:

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

#### COLOR:

Dark gray.

#### YIELD:

0.54 cubic feet (ft<sup>3</sup>) per 65-pound (lb) bag when mixed correctly.

#### COVERAGE:

Approximately 13 square feet (ft<sup>2</sup>) 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:

Generally, pipe surfaces are prepared by Low Pressure Water Cleaning (up to 5,000 psi) or High-Pressure Water Cleaning (5,000-10,000 psi) to remove all loose material, unsound concrete, contaminants, dirt, debris, and/or deteriorated or loose metal. All material should be flushed from the pipe invert and any active leaks stopped. All large voids should be filled prior to the application of MAINSTAY ML-72HP. Saturate all concrete surfaces thoroughly with clean water and allow to surface dry just prior to the application of MAINSTAY ML-72HP.

#### MIXING:

Add up to 1.2 gallon 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-72HP. MAINSTAY ML-72HP can be applied by low to medium velocity wet mix shotcrete equipment (pneumatic spray) or by hand using a trowel. MAINSTAY ML-72HP can also be applied to round structures 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

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Representative for information regarding equipment that is best suited for your job.

### FINISHING:

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

### CURING:

When placed under fast drying conditions or as required by project specifications, MAINSTAY ML-72HP may be damp cured or treated with a curing compound per ASTM C-309. Pipe ends should be closed to limit air movement during curing.

### 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-72HP in a cool, dry place.

### ADDITIONAL INFORMATION:

Go to [www.madewell.net](http://www.madewell.net) for Application Guides, Technical Bulletins and other product specific information.

### 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-72HP 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 swal-

lowed, 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	300 Cycles	No Visible Damage
Tensile Strength ASTM C-496	28 Days	> 850 psi
Bond Strength ASTM C-882	28 Days	> 3,000 psi
Modulus of Elasticity ASTM C-469	28 Days	4,510,000 psi
Rapid Chloride Permeability ASTM C-1202	28 Days	Very Low