



# HERITAGE MASONRY REPAIR MORTAR HL60 - LIMESTONE PATCH

## Product Data Sheet

### Description and Use

HL 60 is an engineered repair mortar designed specifically to match the characteristics of limestone that facilitates fast, easy and extremely durable repairs with excellent visual match. Mineral-based, single component and cementitious, HL60 is mixed only with water. No synthetic polymer additives are added. Formulated using only natural mineral binders, HL60 exhibits excellent UV, freeze-thaw and salt resistance while maintaining flexibility and vapor permeability.

HL60 limestone repair mortar is typically installed in-situ to replace missing, damaged or deteriorated surface areas on limestone. Repairs can be built out on vertical limestone surfaces, without forms, up to 3 inches in a single lift. It is also possible, using HL60, to cast projections and entire replacement stones. HL60 is simply mixed with water then applied and finished by hand, typically within a few hours. Utilizing HL60 on stone restoration projects results in substantial cost savings initially due to speed of installation and later due to durability of repairs. Skilled restoration masons can easily apply HL60; training is offered but no special certification is required.

### Features and Benefits

- Sympathetic product formulation ensures compatibility with stone based on key performance measures, resulting in superb long-term repair durability
- Advanced formulation prevents “halo” stain appearance, typical with stone repair mortars, around masonry repair area
- HL60 can be typically be specified and installed as a direct substitute to other mineral-based stone repair mortars
- Standard blend color selection facilitates quick, convenient installation
- Custom-matched colors and aggregate profiles produce unbelievable visual accuracy
- USHG provides unmatched product and project support, for one pail or hundreds, to ensure excellent results for every installation.

### Sales, Product and Project Support

US Heritage Group supports, sells and ships all products directly to ensure we consistently deliver the highest quality results possible.

Contact USHG for a variety of support services:

- Specifier education
- Project-specific technical advice
- Specification guides and support
- Custom color and aggregate matching

- Installation guides and training

### Technical Data

Compressive Strength: (ASTM-109)	3 days	2,180 psi
	7 days	3,200 psi
	28 days	4,360 psi
Bond Strength: (ASTM C-882)	1,508 psi	
Flexural Strength: (ASTM C-348)	1,581 psi	
Modulus of Elasticity: (ASTM C-469)	1900 psi	
Porosity: (ASTM C-948)	10%	
Absorption: (ASTM C-1403)	10 to 12 %	
Linear Coefficient of Thermal Expansion:	4.8 to 5.3 x 10 <sup>-6</sup> /°F	

### Packaging and Coverage

1-quart plastic jar (2 lbs.)	40 cubic inches of mixed material
1-gallon plastic pails (9 lbs.)	150 cubic inches of mixed material or 1 square foot at 1” thickness
5-gallon plastic pails (44 lbs.)	0.4 cubic feet or 4.8 square feet at 1” thickness

See USHG **Installer Guide to Products and Services** for unit coverage and cost estimations

### Limited Warranty

U.S. Heritage Group, Inc. warrants this product to be of merchantable quality when used or applied in accordance with the manufacturer's instructions. This product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is LIMITED to the replacement of the product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given in writing to U.S. Heritage Group, Inc., 2900 North Kearsarge Ave., Chicago, IL 60641. THIS LIMITED WARRANTY IS ISSUED AND ACCEPTED IN LIEU OF ALL OTHER EXPRESSED WARRANTIES AND EXPRESSLY EXCLUDES LIABILITY FOR CONSEQUENTIAL DAMAGES.

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### Surface Preparation

Repair area should not be less than 1/4" in depth when using HL60. For patches less than 1/4" in depth or with feathered edge, use Dispersed Hydrated Lime Spachtel. Do not apply material to areas with feathered edges.

1. Square cut edges of repair area using hand tools or pneumatic carving tools.
2. Sound off and chisel out all loose and deteriorated stone.
3. Clean the area with clean water and a stiff-bristled brush to remove any loose stone particles.
4. Neutralize any salt deposits (efflorescence and sub florescence) with distilled water.
5. Dampen with clean water until glistening with no standing water.

### Mixing

Wear safety goggles, latex gloves and a dust mask equipped with P-2 filters or equivalent for protection. Dry material should be re-blended prior to mixing with water to evenly distribute any particles that may have settled in transit. The consistency of the mixture should be similar to that of wet sand (not mud). Do not over mix.

Temperature and humidity will affect the amount of water required.

1. Add 5 parts dry powder to approximately 1-part potable water in plastic pail.
2. Mix thoroughly by hand or by low-speed drill (250 to 500 rpm) for 1-2 minutes or until no dry material remains.
3. Check consistency by hand squeezing then breaking a ball of mixed material.
4. If necessary, add fractional part powder or water to adjust and re-mix in 30 second increments for a maximum of 2 minutes.

### Application

All repairs require a minimum two-coat application consisting of a skim coat and a build-out coat. Additional build-out coats may be applied to meet the required thickness. Material can be applied up to 60 minutes after mixing with water, depending on temperature, relative humidity and type of finish specified. Do not install material below 40°F or above 90°F.

#### Slurry Coat

1. In a separate container gradually add water to a small amount of mixed material until it reaches a soupy consistency.
2. Apply as thin skim coat to the surface that will be built out. The skim coat can be applied with a brush or with a hand to coat completely.
3. Start build-out on wet slurry. Reapply slurry to any dry areas prior to build-out coat application.

### Build-Out Coats

Build-out coats should be applied with small trowel or by hand. Multiple build out coats (lifts) should be used if the total builds out depth is over 3".

1. Apply the first build out coat over a wet skim coat.
2. For any additional build-out coats add small fraction of powder to tighten mix.
3. The surface "skin" of build-out coats should be removed when thumbprint hard before applying the next lift of material wet-on-wet.
4. Apply final build-out coat minimum 1/8" beyond desired edge.

### Cleaning

1. Clean all tools and surfaces with clean water immediately after application before the mortar has time to dry.
2. Remove surface smears/residue by repeated application of clean water and brushing until all material is removed. Avoid contact of water or brush with repair area.
3. Remove hardened material mechanically.

### Finishing and Curing

HL60 is ready to finish when thumbprint hard. Material can be hand tooled up to 3 hours after mixing. When material becomes too hard to finish by hand it can be finished with stone carving tools. Always tool away from edges, corners, projections, and towards stone.

1. To hand-tool flat surfaces, draw a straight edged stainless-steel tool across the finish surface. Use the tool at an angle, as the tool can create a surface smoother than the existing stone if it is drawn flat against the material.
2. To hand-tool shapes in the material, use an angled stainless-steel tool to scrape away material into the desired design.
3. Tool entire surface to remove remaining "skin".
4. Protect finished repair from weather and direct sunlight by keeping it covered with plastic or burlap for 24 hours before exposing it to temperatures below 40°F or above 90°F.
5. For best visual match lightly mist repair area with clean water several times a day, for first 3 days after installation.

### Storage

US Heritage Group HL60 has a shelf life of 1 year when stored at a constant temperature and relative humidity in its original sealed container.

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