

HERITAGE HYDRAULIC LIME MORTAR 3.5

Product Highlights

Heritage Hydraulic Lime Mortar 3.5 is a factory-produced dry blend of natural hydraulic lime and select sand packaged in 80 lb. bags. The product is ready to use and requires only the addition of water at the site. The product is available in three different sand gradations: fine, medium and coarse. Heritage Hydraulic Lime Mortar 3.5 is suitable for brick, block, and stone masonry construction as well as repointing, exterior stucco, strawbale construction and casting. This product can be colored using U.S. Heritage Group's premeasured mineral color packs, which are proportioned specifically for 80 pound bags. Available in 44 unique colors, these packs are designed to minimize jobsite mixing errors while guaranteeing optimal quality and consistency among batches.

Hydraulic lime is distinguished from non-hydraulic lime by its ability to cure in damp/wet conditions. This characteristic is the result of elevated levels of clay and/or silica in the limestone that is used to create the lime. Hydraulic lime should not be confused with Type S hydrated lime. Hydraulic lime can be used as a single ingredient combined with sand for a mortar product whereas Type S hydrated lime must be combined with portland cement before it can be used as a mortar.

This product is moderately hydraulic (as indicated by the 3.5 rating). Characteristics of moderately hydraulic lime include a typical range of 12%-18% of active hydraulic components (clay and/or silica) and can be re-worked up to 16 hours after initial mixing. Moderately hydraulic lime expands slightly during the curing process.

Hydraulic lime contains only trace amounts of soluble salts. This minimizes the risk of sulphate damage and alkali silica reaction.

NOTE: Four full 80 pound bags mixed in a conventional paddle type mortar mixer equals approximately the same quantity as a Type N mortar formulation mixed with 16 to 18 shovels of sand at the jobsite.

Recommended Uses

This product is recommended for applications that require high durability, such as wall copings, chimneys, and masonry that is exposed to severe weather. This product is also notable for its high permeability, commonly referred to as "breathability." Unlike cement-based mortars which have a closed pore structure and tend to trap water in masonry walls, Heritage Hydraulic Lime Mortar 3.5 has open pores that allow water vapor and air to penetrate the material. This performance characteristic keeps condensation and mold from getting trapped within historic masonry walls. This product is recommended for moist building areas and humid climates where moisture may otherwise become trapped in a masonry wall system. Heritage Hydraulic Lime Mortar 3.5 requires a minimum 72 hours of curing time to achieve excellent frost, rain, and wind resistance, and this product is suitable for low-fired historic masonry units with high rates of initial absorption.

Surface Preparation:

Joint Preparation for Repointing: old mortar should be removed to a depth of 2 to 2.5 times the width of the joint.

1. Depth of Removal – Rake out joints to a minimum depth of 2.5 times the width of the existing mortar joint but not less than that required to reach sound existing mortar. Joints should be clean of old mortar and debris. Examples of mortar removal depths:

- 1/16" Mortar joint needs to be cut out to a depth of 3/16" minimum
- 1/8" Mortar joint needs to be cut out to a depth of 5/16" minimum
- 1/4" Mortar joint needs to be cut out to a depth of 5/8" minimum
- 3/8" Mortar joint needs to be cut out to a depth of 15/16" minimum
- 1/2" Mortar joint needs to be cut out to a depth of 1-1/4" minimum
- 3/4" Mortar joint needs to be cut out to a depth of 1-7/8" minimum

2. The joints need to be sprayed generously with water and allowed to absorb to the point of Saturated Surface Dry (SSD) with no standing water present.

PRODUCT DATA SHEET

U.S. HERITAGE GROUP, INC.
3516 N. Kostner Avenue
Chicago, IL 60641
v. 773-286-2100 f. 773-286-1852

www.usheritage.com



3. For masonry walls that are extremely absorbent, such as limestone, sandstone and common brick, the walls should receive an additional water prior to the start of the work. Temperature of the existing masonry material, direct sunlight, wind velocity, altitude and humidity will affect the amount of water used to reach the required Saturated Surface Dry (SSD) state. Masonry Construction: Brick and stone with high initial rate of absorption (IRA) should be pre-soaked with water prior to assembly.

Application Procedures

1. Presoak Masonry Wall – Rinse masonry-joint surfaces with water to remove dust and mortar particles. Time the rinsing applications so that the joint surfaces are damp but free of standing water when it is time to point. If the rinse water dries, dampen the masonry-joint surfaces before pointing.
2. Back Pointing – The replacement mortar should be applied to the deepest cut/deteriorated areas in the existing mortar first.
3. Layers – Mortars for repointing can be applied in single lifts up to a maximum one and one-quarter inch (1-1/4 inch or 9mm). When the depth of the mortar application exceeds 1-1/4 inch, then divide the application depth by two – for example a joint depth of 1-1/2 inch can be pointed in two 3/4-inch layers. Fully compact each layer and allow it to become thumbprint hard before applying the next layer. Thumbprint hard is when the applied mortar has dried enough that it is tight when you touch it with your thumb or finger.
4. Placing Mortar – After the deepest areas have been filled to the same depth as the remaining joints, point all joints by placing mortar in layers no greater than 1-1/4 inch or 9 mm. Fully compact the mortar into the joint. Overfill the mortar past the face of the masonry units but do not spread over the edges onto the masonry surfaces. Do not feather-edge the mortar. Where existing bricks or stones have worn edges, slightly recess the finished mortar surface below the face to avoid widened joint faces.
5. Finishing Mortar – When the mortar is thumbprint hard, remove excess mortar from the edge of the joint by cutting with a trowel or raking tool. Match the original joint profile and finish. The point at which the mortar becomes thumbprint hard will depend on several factors: the mortar formulation, weather conditions, the absorption rate of the masonry, the application depth, and the width of the joint. The mortar can often be finished within hours of installation or on the following day. The joints should be finished to match the original historic joint profile.
6. Square Back Reveals – Remove existing mortar from masonry surfaces within the raked-out joints to provide reveals with square backs and to expose masonry for contact with the repointing mortar. Brush, vacuum, or flush the joints with water to remove dirt and loose mortar. Do not spall or chip masonry units in the process of mortar removal.
7. Feather-Edging – For the long-term performance and appearance of the replacement mortar, do not feather the edge of the existing mortar. Featheredging happens when a joint has not been raked out deep enough, when square-back corners have not been cut, or when the grinding wheel is removed from the joint. To promote bonding between the existing and the replacement mortars, the meeting point should be clean-cut at a 90-degree angle.
8. Changing the Visual Appearance of the Wall – Do not widen the existing masonry joints by cutting into the surrounding edges of the masonry units.

Curing Procedures:

The preliminary hardening of Heritage Hydraulic Lime Mortar 3.5 takes place rapidly as water is absorbed by the bedding surface of the masonry units and by evaporation through the mortar joint surface. Periodically wet pointed areas with water using a sprayer that has a fine nozzle. Allow the mortar to reach thumbprint hard state before final tooling is complete.

Acceptable curing methods include covering the repointed wall with plastic sheeting, periodic hand misting, and periodic mist spraying using a system of pipes, mist heads, and timers. Adjust curing methods to ensure that the pointing mortar is damp without eroding the surface of the mortar.

Keep the mortar from drying out too quickly or from becoming too wet. Protect it from extreme temperatures, direct sun and high winds for the first week after installation and from driving rain for the first 24 hours. Use plastic sheeting if necessary. Be careful not to create a greenhouse effect by sealing off air movement in an attempt to protect the wall with plastic. Air circulation is important in the carbonation process.

**PRODUCT
DATA
SHEET**

U.S. HERITAGE GROUP, INC.
3516 N. Kostner Avenue
Chicago, IL 60641
v. 773-286-2100 f. 773-286-1852

www.usheritage.com



Clean-up:

After the replacement mortar has fully hardened, thoroughly clean the exposed masonry surfaces of excess mortar and foreign matter. Use wood scrapers, stiff-nylon or fiber brushes and clean water that is spray-applied at garden-hose pressure. When repointing work precedes the cleaning of existing masonry, allow the mortar to harden to the point that cleaning can be accomplished without eroding the surface of the mortar. This can be carried out as early as three days after repointing is finished and as long as one month later depending on the curing conditions. When possible, it is better to clean existing masonry before repointing. Do not use metal scrapers or brushes. Do not use acidic or alkaline cleaners.

Safety Requirements:

Contains hydraulic lime and silica sand. May be irritating to eyes and nose. Prolonged inhalation may cause delayed lung injury, including silicosis. Avoid contact with eyes and skin. Wash skin thoroughly with water after handling. In case of eye contact, flush with plenty of water for at least 15 minutes. If irritation persists, consult a physician immediately. Dust mask, gloves and eye protection is recommended when handling or opening this package. **KEEP OUT OF REACH OF CHILDREN.**

Limitations:

This material will not adhere properly when simply skimmed across the surface of cracks if the surface is not properly prepared.

The use of muriatic acid in field-mixed solutions or brand-name cleaners containing acidic materials can damage this mortar.

Storage:

Keep material in dry storage. Keep protected from high humidity conditions. Do not allow plastic shrink wrap to remain on material pallet for extended periods of time as this can potentially trap moisture.

Shelf Life:

Material should be used within six months of date of shipment.

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, Chicago, IL 60641. **THIS LIMITED WARRANTY IS ISSUED AND ACCEPTED IN LIEU OF ALL OTHER EXPRESSED WARRANTIES AND EXPRESSLY EXCLUDES LIABILITY FOR** under this warranty, notice must be given in writing to U.S. Heritage Group, Inc., 3516 North Kostner Ave.