

HERITAGE CEMENT/LIME MORTAR (TYPE O)

Product Highlights

Type O mortar is a formulation that has been widely used by craftsmen and specified by architects during the twentieth century. The formulation is a factory produced blend of hydrated lime, portland cement, and sand that is proportioned to provide an even life-cycle performance for new masonry construction applications as well as historic buildings that were constructed with high lime mortars.

All mortar ingredients are carefully manufactured by weight to meet applicable ASTM C270 Standards. This product is available in a medium sand gradation for standard joints.

Heritage Cement/Lime Mortar complies with ASTM C270-07 Standard Specification for Mortar for Unit Masonry, Proportion Specification.

NOTE: Four full 80 pound bags of this product 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 mortar is recommended for structures that were originally constructed using a high lime mortar. This is also the most popular mortar specified for new masonry construction or when the presence of natural or portland cement in the original formulation is confirmed through mortar testing.

This formulation is also a good choice for marine environments and/or work being carried out near the end of the construction season when frost or freezing temperatures may be a concern. This mortar sets up faster and has the ability to become more durable quicker than straight lime mortars.

Mixing Instructions:

Place half the amount of water into the bucket, wheelbarrow or mechanical mixer. Add the dry material slowly into the mixer. Add the additional water and remaining dry material. Using a mortar hoe, paddle drill or mechanical mixer - mix the material for 3 full minutes. Repointing mortar should resemble the consistency of brown sugar. Additional water may be added for laying masonry units. Allow mortar to stand for 15 to 20 minutes prior to using. Remix mortar again before use. If too much water is used mistakenly during mixing - set aside and allow for water evaporation in direct sunlight to thicken up the material prior to use.

Surface Preparation:

Repointing: Joints should be clean of debris and old mortar removed to a depth of 2 to 2.5 times the width of the joint. 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.

Brick and Stone with high initial rate of absorption (IRA) should be pre-soaked with water prior to assembly.

For masonry walls that are extremely absorbent, such as limestone, sandstone and common brick, the walls should receive a additional water prior to the start of the work. Temperature of the masonry material and direct sunlight as well as wind, altitude and humidity will affect the ability of a wall to reach the required Saturated Surface Dry (SSD) state.

Old mortar should be removed to a minimum depth of 2-1/2 times the width of the joint to ensure an adequate bond and to prevent mortar "popouts." For most brick joints, this will require removal of the mortar to a depth of approximately 1/2 to 1 inch; for stones with wide joints, the mortar removal may need to be several inches. Any loose or disintegrated mortar beyond this minimum depth also should be removed. Mortar should be removed cleanly from the units, leaving square corners at the back of the cut.

The traditional manner of removing the mortar is through the use of hand chisels and hammers. Though labor-intensive, this method poses the least threat for damage to the masonry units. Small pneumatically powered chisels also are effective as long as the masons maintain appropriate control over the equipment. Power grinders

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should not be used unless the operator will assume liability if irreversible damage is caused to the historic masonry units. Use grinders with extreme caution. Before filling, the joints should be rinsed with a jet of water to remove all loose particles and dust.

Do not widen the existing masonry joints by cutting into the surrounding edges of the masonry units.

Application Procedures

Mortars for repointing can be applied in single lifts up to a maximum one and one-quarter inch (1-1/4 inch or 9 mm). 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.

After the deepest areas have been filled to the same depth as the remaining joints, point all joints by placing mortar in layers not greater than one and one-quarter inch (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 allow it to 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.

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 rate at which the masonry units absorb water, the application depth, and the width of the joint. Lime mortar can often be finished within hours of installation or the following day. Follow the mortar manufacturer's recommendation regarding the timing for tooling the joints. The joints should be finished to match the original historic joint profile

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.

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.

You have up to 2 hours to complete your work prior to the initial set of this mortar. Tempering with water is permitted during use.

Curing Procedures:

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. Curing methods will vary in different parts of the country and at different times of the year, calling for different amounts of water to be used in the wet-and-dry cycles. Adjustments also have to take into account how much time is remaining before freezing weather arrives.

Because this formulation contains portland cement as an ingredient - maintaining the wet/dry cycles required for straight lime-based mortars is not required for optimum performance.

Clean-up:

Clean tools with water.

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Safety Requirements:

Contains portland cement, hydrated lime and silica sand. May be irritating to eyes and nose. Prolonged inhalation may cause delayed lung injury, including silicosis and possible cancer. 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 skimmed across the surface of cracks.

The use of muratic acid in field-mixed solutions or brand-name cleaners containing acidic materials are not recommended.

Sands used in this product offering do not meet ASTM C144-04 Standard Specification for Aggregates for Masonry Mortar.

Storage:

Keep material in dry storage. Keep protected from high humidity conditions. For dry bagged product, do not allow plastic shrink wrap to remain on material pallet for extended periods of time as this can potentially trap moisture. For product packaged in buckets, ensure that the lid is tightly sealed.

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 manufacture'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.