



TRADITIONAL OYSTERSHELL LIME PUTTY

Traditional Oystershell Putty

Your only source for traditional Oystershell Lime! Virginia Lime Works Traditional Oystershell Putty is a binder to be used primarily for Historic Preservation. Virginia Lime Works Traditional Oystershell Putty offer low compressive strengths and high vapor permeability, high sulfate resistance, extended working times, and wonderful workability. Virginia Lime Works Traditional Oystershell Putty is made the same way as the colonists did, by burning oystershell using ONLY wood as the fuel source. Our Firing temperatures range from 1625°F (900° C) at the beginning of dissociation to 1900° F (1025°C) during the peak of the lime burning. The oystershell quicklime is then slaked with only water, passed through a sieve, and aged for a four week minimum. Virginia Lime Works Traditional Oystershell Putty is MADE IN THE USA.

Where to Use

Oystershell Putty was used in building construction, both as masonry mortar and plaster, but also in limewashes and other applications.

Composition

Hydroxide made from oystershell: $\text{Ca}(\text{OH})_2$. Bulk Density: Approx. 97.5 lbs/ft³

Preparation

For Laying or Bedding Masonry: Protect work from harsh direct sunlight, wind and rain, and if necessary freezing temperatures. Protect sills, ledges, windows, doors, and projections from droppings and splatters. Do not use tape or adhesives on any masonry surface. Prevent mortar from staining the face of the masonry and or other surfaces to be left exposed.

For Masonry Repointing: Remove all existing cement mortar by hand. Angle Grinders should not be used at risk of damaging historic masonry particularly when working with this product, whereas masonry joints can often be less than 1/8 of an inch. All deteriorated mortar should be raked out to sound mortar, leaving a clean square face at the back of the joint, to which ever depth is greatest (1 inch, 1 1/2 times the width of the mortar joints, or until cohesive existing mortar is encountered). Care should be taken not to damage historic masonry surfaces and masonry joints should not be widened. Debris should be removed by hand brushing, vacuuming, or pressurized air. If there is evidence of moisture retention or rising damp it may be necessary to allow the structure to "dry out". If this process is not done, lime leeching may occur, causing failure or the placed mortar and staining of the masonry.

Control Absorption by wetting units or surfaces prior to application. Surfaces and/or units should be cool and damp but not glistening or "holding water" to prevent premature drying of mortar. On the day prior to working control absorption by thoroughly dampening substrate by fine mist spray (depending on conditions this may entail dampening for additional time). Ensure there is no standing water or over-saturation before application. If the substrate is retaining moisture it may be attributed to various conditions which would need to be corrected before work begins. Issues such as detailing, positive drainage, etc. should be dealt with prior to product application.

Mixing Directions

Mix 1 portion of Traditional Oystershell Putty with determined portions of sharp, clean, and well-graded sand (Do not exceed 1 part lime to 2.75 parts sand. Using a shovel or hoe, chop the two components together until oystershell putty is coarsely distributed throughout the mix. Beat or ram the putty and sand together with a pestle or "beater" and turn until the mix is to desired consistency. Oystershell Putty has a tremendous amount of water retention. Take care when adding water whereas too much water will expand your mix and cause potential problems such as shrinkage cracks and frost damage.

*For Mechanical Mixing in a roller pan mixer: Add lime followed by the dosage of sand slowly and then additional water if necessary to desired consistency. **Oystershell Putty Mortars should not be mixed in a standard paddle mortar mixer.***

See "Reworking" below.

Application

Lay a bed of mortar to sufficiently create full bed (horizontal) joints and “butter” brick ends to form full head (vertical) joints. Do not move or adjust units after the commencement of set, which can cause loss of bond between mortar and masonry units. If adjustments are deemed necessary remove both the masonry unit and the bed, and re-lay using fresh mortar.

For Masonry Repointing: Joints greater than ¼” should be re-pointed with an initial lift to bring the joint depth to a uniform thickness. Pack mortar firmly against the previously placed mortar by applying firm pressure to ensure close contact between the lifts. If pointing in lifts, roughen the surface to provide keying between applications and allow mortar to become thumbprint hard prior to reapplication. When finishing mortar joints it is often preferable to match the original joint profile.

Reworking: It is possible for Oystershell Putty mortars to be re-worked and reused for up to extended periods of time. However, if when re-working the mortar, a significant addition of water is needed or if the material has been left out for too long, the mortar may have already carbonated to a degree to make it un-usable. To re-work lime putty mortars, chop and beat (see Mixing Directions for Mortar or Plaster) the mortar until the material is to a workable consistency. Oystershell Putty Mortars can be re-worked in a standard paddle mortar mixer if necessary. Curing Time: Mortar work should be protected from sun, wind, and rain for at least 7 days. Mortar work should be protected from freezing temperatures for at least 28 days. In some cases mortar work may need to be protected from freezing temperatures for several months.

Coverages and Consumption (per 5 gallon pail)

| Mix Design Sand/Lime by Volume | Yield (cubic feet) | Bricklaying 4” bed- ⅜” thick | Stonework 4” bed- ⅜” thick | Repointing Brick ⅛” joint – ¼” thick | Repointing Stone ⅛” joint – ¼” thick |
|-----------------------------------|------------------------------|---------------------------------|-------------------------------|---|---|
| 2/1 | Approx. 1.20 ft ³ | 72 brick | 74 linear ft | 135 ft ² | 396 linear ft |
| 5/2 | Approx. 1.50 ft ³ | 90 brick | 92.5 linear ft | 168 ft ² | 495 linear ft |

| Mix Design Sand/Lime by Volume | Wood Lath ¼” Thick | Metal Lath ¼” Thick | Wood Lath ⅜” thick | Metal Lath ⅜” thick |
|-----------------------------------|-----------------------|------------------------|-----------------------|------------------------|
| 2/1 | 36 ft ² | 36 ft ² | 28 ft ² | 28 ft ² |
| 5/2 | 45 ft ² | 45 ft ² | 36 ft ² | 36 ft ² |

Clean Up

Ensure that all work is properly protected prior to cleaning. Maintain clean surfaces on the face, sills, ledges, and projections of masonry on a daily basis, and with a trowel, strike off minor dabs of adherent mortar from masonry faces. After mortar has achieved thumbprint hardness, lightly brush masonry to remove small mortar burrs from joints and masonry edges. Manual cleaning of masonry can be effective by using water and soft bristled brushes to remove mortar smears. Allow curing of mortar to occur before light pressurized spray (less than 300 PSI) can be used with caution due to the fact that over saturation of the masonry could lead to moisture migration. Virginia Lime Works™ does not recommend cleaning with masonry detergents, however, if such measures deem detergents necessary, contact detergent manufacturer for protocol when cleaning “PURE LIME MORTAR” and test the treatment in small inconspicuous areas to determine its effectiveness and to ensure no damage occurs to the building fabric. Tools can be cleaned using conventional methods and properly protect any unused product from moisture and freezing. Opened containers of lime putty should be stored by pouring one inch of water to “seal” the putty, in the pail. This putty should last indefinitely.

Alternate products, Natural Hydraulic Lime (to be mixed with sand on-site), Lime Putty, Lime Putty Mortar, Mix&GO Mortars and Plasters

Additional References

Traditional Oystershell Putty Material Safety Data Sheet, Guide to Traditional Lime Mortar, Lime 101: The Basics, Guide to Masonry Repointing.