

Virginia Masonry



Restoration

LIME MORTAR

If your brick house was built before 1910, chances are good that it was built using Lime Mortar.



USING THE RIGHT MORTAR CAN ALLOW BRICK WALLS TO LAST FOR CENTURIES

Traditional lime mortar acts like a cushion, flexing with the brick's movement while allowing moisture to migrate easily from within the wall. The mortar will deteriorate over time while the soft clay brick survive.



USING THE WRONG MORTAR

Most masonry structures built before 1920 were built using clay brick and lime mortar. This method of construction has certainly stood the test of time but failing to understand the role lime mortar plays in solid masonry construction could result in repairs that do more harm than good.



Damage caused from using the wrong mortar

HOW DO MODERN MORTARS CAUSE DAMAGE?

Modern Portland cement based mortars do not have the permeability or the flexibility of Traditional Lime Mortar. Water does not evaporate through Portland cement and this causes the repointed joints to act as a barrier to water evaporation. Additionally, the rigid cement forces the face of the brick to do all of the expanding and contracting during freeze thaw cycles causing the faces to crumble over time.



REPAIR FUNDAMENTALS

Structure

Many repairs may not have an immediate structural impact on the building, but the way repairs are done can have long term consequences. All repair decisions should consider the current structural condition and whether the proposed method of repair creates a potential for structural problems in the future.

Function

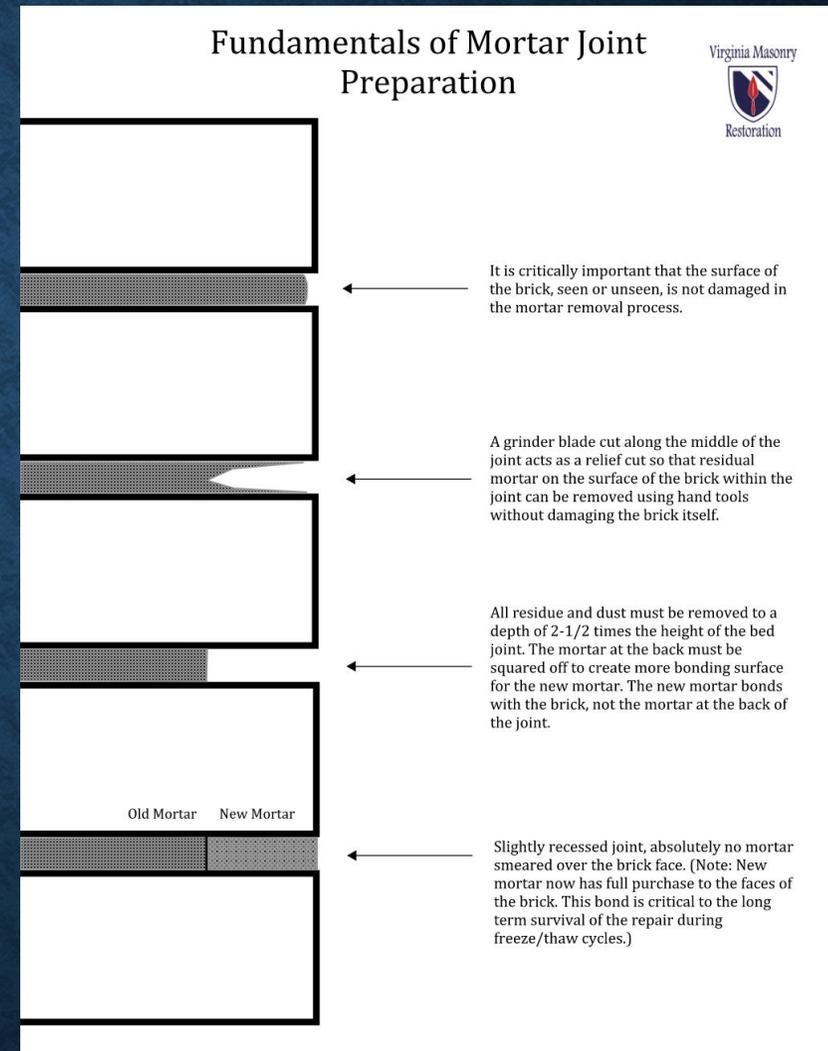
The original design and method of construction on any building has intent and purpose. The basic purpose of any building is to have the strength to stand up, to survive the elements, and to protect whatever is within. Repair decisions have to depend on interpreting and understanding the intent and purpose of the original method in order for the repair to function.

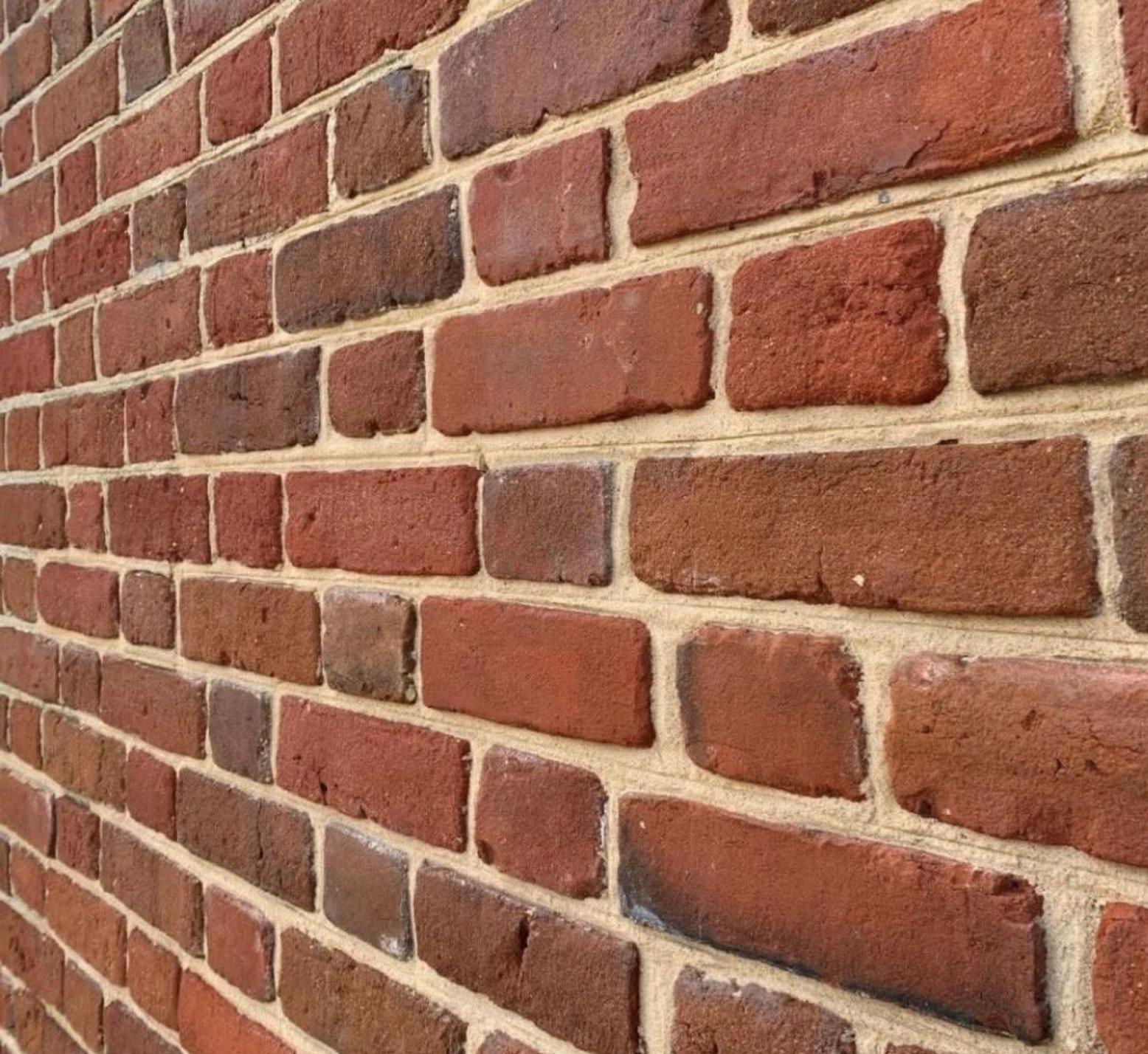
Appearance

In many cases the way a repair looks can tell you a lot about the quality of the repair overall. Masonry restoration requires an ability to notice the small details in the existing masonry and then find a way to reproduce those details with the same degree of frequency.

THIS IS THE HEART OF UNDERSTANDING HOW TO MAKE OUR REPAIRS LAST

This procedure is very time consuming and is often acknowledged during the submittal phase but ignored during the performance of the work.



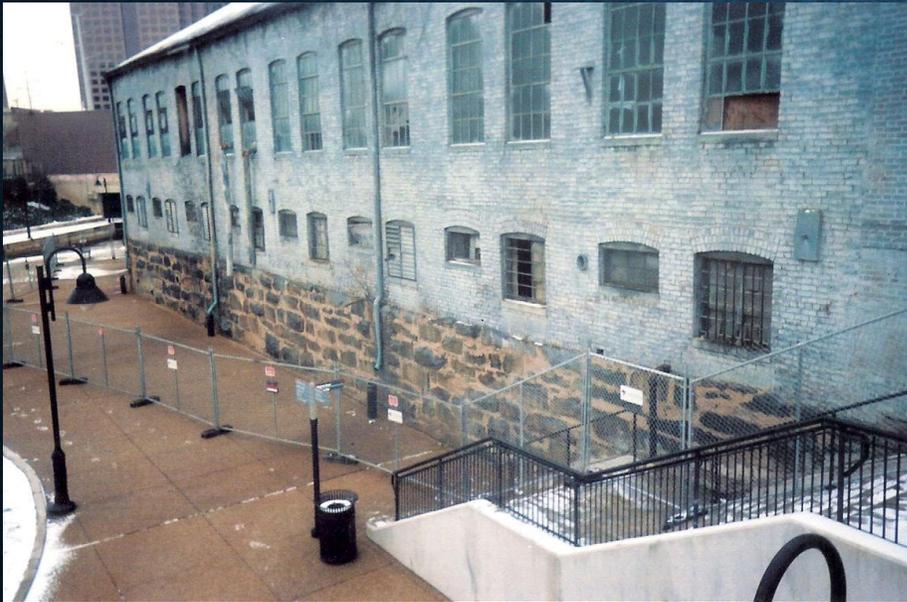


JOINT FINISHING

- Notice that after striking the joints the edges of the joint where they meet the brick have been cut back to create a small reveal which helps to create shadow and make the repair less conspicuous. Small rule marks have been added here and there to replicate the appearance of the surrounding mortar joints.

BRINGING BUILDINGS BACK TO LIFE

Lady Byrd Hat Factory with over 100 years worth of pollution, tar, mortar, and paint.



Lady Byrd Hat Factory Complete Façade Restoration



Notice that the old mortar repairs that were smeared on the stone have been removed, the new joints have been recessed to eliminate signs of repair and show off the original stone façade.

RESTORED RICHMOND CANAL WALL



BAD REPAIR VS. GOOD REPAIR

This is a wall that had recently been repaired



This is the same wall repaired using a technique known as "tuckpointing"



CUTTING THE JOINTS AFTER STRIKING MAKES THE REPAIR LESS CONSPICUOUS

- This section of wall was severely bowed and had a structural fracture approximately 8 ft. long. The wall has been repaired and 40% of the section shown has been repointed.

