

(Letter in footnote from Lord Macclesfield: ...the lime generally made use of in our neighbourhood is made from chalk...The manner of making (ash) mortar is as follows:

**Take of lime that is *very fresh* two bushels and take wood ashes three bushels. Lay the ashes in a round trench, and the lime in the middle of the trench, then slake the lime and mix it well with the ashes. Let it lie until it is cold, and then beat it well together and so beat it for three or four times before it is used....Mortar thus made is reckoned, by our bricklayers, to be much more strong than that prepared with Terras in places that are at sometimes wet and at others dry, though they acknowledge that the terras mortar is better in work that is constantly under water...**

**John Smeaton – a Narrative of the building and a description of the construction of the Edystone Lighthouse with stone; to which is subjoined an appendix, giving some account of the lighthouse on the Spurn Point, built upon a sand. Nicol London 1791** (*but recounting works and experiments performed 1756 onwards*).

Entered, according to Act of Congress, in the year 1860. by D. H. JACQUES, in the Clerk's Office of the District Court of the United States for the Southern District of New York.

RECIPES FOR PAINTS, "WASHES, STUCCO, ETC.

The following cheap and excellent paint for cottages is recommended by Downing. It forms a hard surface, and is far more durable than common paint. It will be found preferable to common paint for picturesque country houses of all kinds. **Take freshly-burned unslaked lime and reduce it to powder. To one peck or one bushel of this add the same quantity of fine white sand or fine coal ashes, and twice as much fresh wood ashes, all these being sifted through a fine sieve. They should then be thoroughly mixed together while dry. Afterward mix them with as much common linseed oil as will make the whole thin enough to work freely with a painter's brush.**

Various substances are sometimes added to mortar to increase the tenacity, and they impart thereto the principles of hydraulic cements to a greater or lesser degree. These chiefly consist of **burnt clay, ashes, scoriae, iron scales and filings, pulverized broken potter's ware, bricks, tiles, etc**, all of which are very useful for mixing with lime or mortar to increase their hardness, but these must be very pure and dry, and reduced to a fine powder before being mixed with the lime.

*Common mortar of ashes* is prepared by mixing **two parts of fresh slaked lime with three parts of wood ashes together, and when cold**, to be well beaten two or three times previous to using it, will be found to improve by keeping...this mixture is by some persons thought to be superior to terras mortar, but not nearly equal to it when applied quite under water.

**Austin J G 1862. Published in New York, summarizing Eastern US urban practice mid 19<sup>th</sup> C.**

Common mortar of ashes is prepared by mixing two parts of fresh slacked lime with three parts of wood ashes and when cold to be well beaten, **in which state it is usually kept for some time... by some it is considered equal to some of the water cements.**

### **Powell George T (1889) Foundations and Foundation Walls etc**

*Experiments shewing the Effects of common Wood-ashes, calcined or purer Wood-ashes, elixated Ashes, Charcoal Powder, Sea Coal-ashes, and powdered Coak, in Mortar...*

The ashes of wood and sea coal are frequently mixed with water, or used in the place of sand, **in laying tiled floors and even in external incrustations.**

Some workmen say they are used in the former case to save sand; others that **they serve to resist moisture...and that they hasten the drying and induration and prevent the cracking of mortar which is laid very thick** in order to fill the depressions of walls which are to be stucco'd and that they are used in finer incrustations with the sole view of preventing cracks.

P164. After a great number of experiments...with the elixated ashes, I found that they rendered the mortar spongy, disposed it to dry and harden quickly, and prevented it from cracking, more effectively than the like additional quantity of sand would do it.

From these experiments, I conclude that...these powders are eligible in this order: elixated wood-ashes freed from the finest powder in washing, first; powdered coak or sea-coal cinders, next; charcoal powder next; rough wood ashes powdered, last.

**Bryan Higgins Experiments and Observations made with the view of improving the art of composing and applying Calcareous Cements and of Preparing Quicklime. 1780 Cadell. London.**

### **Powell George T (1889) Foundations and Foundation Walls etc: New York**

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