

**Langley Batty (1750) London Prices of Bricklayers' Materials and Works Both of New Buildings and Repairs, Justly Ascertained. London Richard Adams 2<sup>nd</sup> Edition.**

(p32) The several kinds of Mortar used in Buildings are Eight, viz

1. Inside and Outside mortar made of Lime and Sand
2. Terrace Mortar, made of Lime and Terrace
3. Brick-Dust Mortar, made of red Stock Brick dust and Lime
4. Bastard Terrace, made of a Smith's Forge Ashes and Lime
5. Pargetting Mortar, made of Lime and Horse-dung
6. Furnace Mortar, for Furnaces, Ovens, Kilns, etc made of Woolwich Loam or Windsor Loam only
7. (p33) Plaister Mortar, made of calcined Alabaster
8. Fine Mortar, called PUTTY, **for rubbed and gaged Works**, made of Lime only.

Inside Mortar

Inside Mortar is used for Vaultings, Foundations, Partition and Party Walls , insides of Fronts, and other Parts, which are hid from the Eye and not exposed to the Weather.

This Kind of Mortar is generally made with Pit-sand which requires more or less Lime as it abounds more or less with loamy Particles; and therefore when Pit-sand is of a loamy, fat Nature, to 1 Load, (viz. 24 heaped Bushels) put 1 Hundred of Lime; but when it is a clean sharp Grit as Thames Sand then to 1 Load of Sand put 1 ½ Hundred of Lime, **which mix up together as the Lime is slacked in small Quantities.** And since that Hundred of unslacked Lime is just 20 heaped Bushels, therefore in the first Case of loamy Sand, the Quantity of Lime is to the Quantity of Sand, as 20 is to 24; that is, in the lead Terms, as 5 is to 6 viz. 5 of Lime, to 6 of Sand.

The Expense, prime cost, of making a hundred of lime into inside mortar with loamy Sand, is as follows, viz

1. Hundred of lime	0	9	0
2. Load of Sand	0	3	0
3. A Labourer <sup>3</sup> / <sub>4</sub> day, <b>to slack, sift, turn up and chafe</b>	1	1	6

(p37) Out-Side Mortar for Fronts, Tiling, &c. exposed to the Weather, should be made with the sharpest Grit-sand that can be had, as being best able to withstand the Insults of Rains, &c. which Loamy Sands cannot so well do — and which therefore should not be used in any Part of a Building, that is exposed to the Weather.

The Proportion that the Lime should have to the Sand, is as 2 is to 1, viz. **2 heaped Bushels of unflacked Lime to 1 ditto of Sand**

(p40) Terrace Mortar

As Lime Mortars are made of Lime and Sand, so Terrace Mortars are made of Lime and Terrace. Terrace is a kind of Sand brought from Holland but from whence the Dutch have it, is unknown to me. It is sold by the Brick and Lime Merchants in London, and particularly by those on the Fleet-Ditch-side, at 3s. 6 d. per striked Bushel, and sometimes for less Money. Terrace Mortar is **chiefly used in Walls exposed to Water, as to Rivers, Ponds, Cisterns, Bog-Houses, Cold Baths &c.**

The best Terrace Mortar is made with two Bushels, &c. **of hot Lime**, and one Bushel &c. of Terrace, well incorporated by beating. And which Quantity to beat well, is a good Day's Work for a Labourer.

(p42) Bricklayers **also sell Terrace dry mixt, with slacked Lime made ready for Beating**, which must be done near to the Work where it is used, because of its setting very quickly - which it will always do if it is good and well beaten, and therefore must be instantly used in small Quantities as it is beat. [*the ingredients dry-slaked together*].

In the beating of Terrace, great Care should be taken not to over-wet it, but to beat it as stiff as can be and the oftener tis beat, the stronger it is.

(p43)

Of Brick-dust Mortar.

This Kind of Mortar is exceeding good, and in some Cases is better than Terrace Mortar; for **unless Terrace Mortar is always wet, 'tis not better than common Mortar made of Lime and Sand.**

This Kind of Mortar is thus made, viz.

**To two heap'd Bushels of hot Lime put one heap'd Bushel of Brick-dust made from red Stock Bricks, which mix, beat, and work up, as before directed for Terrace.**

(p44) This is an excellent Mortar for to lay Face Tiles or Ten Inch Tile Pavements in on Floors which are naturally wet or damp; and tor Brick Pavement and Tiling, unless for Glazed Tiles and then in the stead of Brick-dust 'tis best to use Sea-Coal Ashes with some unburnt small Sea- Coal Dust mixt in the stead of the Brick-dust.

(p45) Of Sea-Coal Mortar, called Bastard Terrace.

This is also an exceeding good Mortar for to lay the Copping of Walls in, for to point glazed Pan-tilings, for to lay Slating, Purbeck and Portland Pavement, &c. in and many other Uses, where the Rains are required to be kept out. This Mortar is thus made:

To 3 heap'd Pecks of a Smith's Forge Sea- Coal Ashes (which is sold for 4 d. per heaped Bushel) intermix'd with the Iron Flakes put 1 heaped Peck of unburnt Sea-coal Dust and two heaped Bushels **of hot flacked Lime** which incorporate well by Beating, as before said of Terrace Mortar and use it up as 'tis beat.

(p46) Of Pargetting Mortar.

This Kind of Mortar is chiefly used for to plaister the Insides of the Funnels of Chimneys and is also very good for to point common Pan-Tiling, &c. and is thus made:

To 1 heaped Bushel of fine skreened *clear Lime* add about a 4th Part of fresh Horse-dung clear from Dirt and Straw; which incorporate with the Lime by well beating it, as is said of Terrace Mortar.

1 Bushel of <i>fine lime</i> , taken out of 2 bushels of unscreened Lime	0	0	4 ½
Horse-Dung and Labour to get it	0	0	1 ½
Labour to <b>slack, sift, turn up and beat</b>	0	0	4

(p47) Of Furnace or Fire Mortar.

This Mortar is made either of Woolwich Loam, or of Windsor Loam, viz. Loam brought from Woolwich in Kent or from the Brick Kiln at Gerrard's Cross by way of Windsor.

Both these Kinds of Loam endure very great Heats before they will vitrify. The Manner of making them into Mortar is to well chaff and beat them, as outside common Mortar is done, and of such a Consistency as to work easy.

Of White Plaister Mortar.

Plaister prepared (vulgarly called Plaister of Paris) when mixt with Water, becomes a Mortar or Cement that sets very soon and hard; and **by Bricklayers is used for setting of Galley Tiles in the Covings of Chimneys, Cold Baths, Pastrys, etc.**

And as common Lime is made of Chalk calcined so Plaister is made of Alabaster-stone, or Talk, calcined and pulverized or first pulverized in the Raw stone and calcined afterwards in a Boiler.

(p48) To Calcine Alabaster-Stone, and to make Plaister commonly called Plaister of Paris, Beat the Stones to Pieces, about the Size of a Hen's Egg; then burn it or bake it, until the Shining Quality within each Piece (which is easily known by breaking some of them) be entirely gone, and they appear entirely white within

like Chalk, then beat it on a flat Purbeck Stone, enclosed with a Frame, about 3 Feet square, and sift it through a fine Wire or Lawn Sieve into a Tub for Use.

Summary of Prices of materials.

Of unslacked lime per hundred...Of unslacked Lime per striked bushel...of slacked lime per bushel...of inside mortar...of outside mortar...etc

(p84)

Of rough un-jointed Place-Brick Walling.

Now, as I have already declared in p.35, that 25 heaped Bushels of unslacked Lime, and as many heaped Bushels of Sand are sufficient for one Rod of this Kind of Brick- work, it is very easy to find the prime Cost per Rod either of Materials and Labour or Labour only, in every Part of the Kingdom, where the Prices of Workmen's Labour, and prime Costs of Bricks, Lime, and Sand is known, and from thence to find the real Value which the Master ought to be paid....

**(p84) 25 heaped bushels of unslacked Lime...A labourer  $\frac{3}{4}$  of a Day to slack and screen the Lime, and to turn up and chaff the Mortar...**

(Similar for jointed place brick walling).

**(p132) The Mortar in which rubbed and gauged Bricks are set is called Putty, and is thus made:**

**Dissolve in any small Quantity of Water, as two or three Gallons, so much fresh Lime (constantly stirred with a Stick) until the Lime be entirely slacked, and the whole become of the Consistency of Mud; so that when the Stick is taken out of it, it will but just drop; and then being sifted, or run through a Hair Seive, to take out the gross Parts of the Lime, is fit for Use.**

P135) Of common Brick Walling with Terrace Mortar, for Defence against Waters; as Walls to Rivers, Canals, Ponds, Basons, Drains, Sewers, Conduits, Mill-Heads of Water, Bog-Houses, &c

When Walls of this Kind are to be built next to a River, as against a Bank, to preserve it from being washed away; then to lay the Out-side Courses four Inches in Terrace Mortar, and the Back Part in common Lime Mortar, will be sufficient; and so the like for the Sides of Drains, Common Sewers, Mill- Heads, &c

But where Water is required to be kept in as in Cisterns, Basons, Canals, &c. whose Bottoms are secured, then every heading Brick, to make sure and sound Work, ought not only to be wholly laid in Terrace, but all the upright Inside Joints at the Ends and Sides (p136) of Headers, and Sides of Stretchers, should be

carefully worked up in Terrace, that thereby such Water as may Filter through their Pores, shall go no farther.

(P326) Of Mortar for Outside Repairs

Tops of Chimneys, being wholly exposed, are sooner affected by driving Rains, &c. than any other Brickwork, and especially when the greedy Bricklayers don't **allow Lime and Labour sufficient** to make the Mortar good; they, or the general Part of them, having a very great Regard to the following Proverb, viz.  
*That the Decay of his work is the Life of their Trade.*

Mortar for the Shafts of Chimneys, Parapet Walls, Tops of Garden Walls, Etc should be made with the sharpest and cleanest Sand, (free) from Earth or Loam, that can be got and therefore the drift Sand of Rivers, where it can be had, is the best sort of Sand for these Purposes that can be used. But where Sea- Coal Ashes, clean from Wood Ashes and Dirt, can be had, they are preferable to drift Sand, provided that the Mortar be well beat and used as bastard Terrace.

This Mortar is thus made.

**To 2 heaped Bushels of unslacked Lime, put 1 heaped Bushel of Drift Sand or Sea- (p237) Coal Ashes which beat well, and work up hot, as 'tis made ready for Use.**

