Hot Mixed Mortars

A Stonemason's Perspective



By Patrick McAfee

Coventry, England 20<sup>th</sup> October 2016 1. <u>CLAY</u>, a natural component of earth with or without the addition of sand/aggregate. Quicklime sometimes added to stabilise

2. <u>LIME</u>, quicklime , mostly non-hydraulic/feebly hydraulic with the addition of sand/aggregate to produce a hot-mix mortar. Sometimes with additional materials to create a pozzolanic set or to enhance carbonation

3. <u>GYPSUM</u>, internally northern Europe for plasterwork but externally Mediterranean with sand/aggregate for building mortars and external renders. Can include lime. 8<sup>th</sup>/9<sup>th</sup> to late 19<sup>th</sup> Hot mixed lime mortars Earth mortars

Professions and craft

H

THE OWNER

Decline of craft

**Rise of professions** 

# Natural hydraulic lime: sai

#### 18<sup>th</sup> -19<sup>th</sup> c:

use

H

#

Russborough House, County Wicklow

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Hot-mix lime and earth mortars -mention of pozzolans and hydraulic lime -minor

#### le 19<sup>th</sup>c, to early 60's: Cement:lime:sand (Lime and sand 'soured out' for 6 months , and then gauged with cement.

Late 1980's- (Lime Revival) late 90's:

Lime putty : sand. Cement: lime putty:sand Pozzolans

Lime

Late 1960's: Cement:sand: mortasiser

Lime

### Yvonne Doyle The Irish/Scottish HLM group

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Safety glasses Diphoterine Nitrile gloves Work gloves Emergency Ph	CaCO3 & calcination Limestones Shells Fuels Kiln model	Bir Ear Car po Lin Gy	iders rths O (lump, kibble & wder) ne putty psum	Sands/aggregates Size Colour Shape Silicious,/ calcareous
numbers	CaO	Ca: NH	sein IL's	Hydrochloric acid BS sieves
After-care & protection Hessian Plastic Water spray Insulation Heat	Mixing Ikea bowls X 8 Spatulas-set Weigh scales Serving spoons Beer glasses (plastic) Water Casein	Additives Linseed oil Tallow Pigments Hair	Seeding etc Shell Limestone dust (oolithic) Wood ash Turf ash	Pozzolans Brick dusts Metakaolin Pozzolana Ash Shell-extra fine
Tests BLFI test descriptions Flip chart Pens Thermometers X2	Hand-held mortar mixer Wheel barrow Hoes Shovels Mixing board	Stonemaso Bricklaying Plastering	Coal ash	



## **ADVANTAGES OF HOT-MIX LIME MORTAR**

- High workability
- Increased productivity
- Fuller and compressed vertical joints
- Can lay wet stones
- Cleaner work no runs down the face of the work
- Able to build higher without squeeze
- Joints surfaces can be finished same day
- Eliminates much of 'touching up' afterwards
- Replicates original masonry mortars and explains building methodology
- Further increases in production when used hot