

Specification of proposed mortar

29 June 2022

Ref: Condition 5 of Listed Building Consent 131433/LO/2021

1. EXISTING CONDITION

The missing, eroded or failed mortar joints due to age, water ingress or inappropriate materials which have been identified in the sections of external brickwork walls, copings, window heads or window cills are to be raked out and re-pointed using a lime-based mortar mix not containing any cement.

2. SPECIFICATION

Lime mortar should be hard density NHL 5 lime mortar of Hazelrigg style from Conserv or similar equivalent for use in severe North-west England masonry weather exposure conditions in accordance with BS 8104:1992 (Code of practice to estimate exposure to wind driven rain throughout the United Kingdom).

The Hazelrigg or similar equivalent mortar has a fine texture and is suitable for pointing and re-pointing joints with a thickness of 4mm or more. The Hydraulic Lime Mortar is CE certified and is manufactured to British Standards BS EN 998-2:2016 following heritage guidelines. The mortar doesn't contain anything artificial, no additives or plasticisers and no cement.

The technical specification of the lime mortar are as follows:-

Specification	BS EN 998-2:2016
Weight	25kg (approx.)
Hue	Chestnut
Tone	Light
Texture	Fine Texture
Binder	NHL 5 BS EN 459-1:2015
Aggregate	BS EN 13139-1:2015
Grading	Gf80

Bed size	4mm ≥
Density	1,700 kg/m ³ ± (at 91 days)
Vapour permeability	0.72 grams / 100mm ² / 24hrs ±
Compressive strength	4.10 N/mm ² ± (at 91 days)
Flexural strength	1.71 N/mm ² ± (at 91 days)
Resistance to freeze thaw	Very high (>50 cycles)
Resistance to sulphate exposure	Very high (>50 cycles)
Resistance to freeze thaw in sulphate conditions	Moderate 26-50 cycles
Capillary rise	Moderate (76-100mm in 6 hours)
Mortar durability class	9 to 10
Carbonation rate	Moderate
Initial set	Overnight ±
Curing	90 days ±
Shelf life	Use within 12 months of purchase§

Location of proposed mortar



North-west front elevation - Sections to be re-pointed as indicated

Replacement bricks

3. REPLACEMENT BRICK

The missing bricks which have been identified are to be replaced with Ramian Red Stock Ibstock brick ref. A3616A. Brick to manufacturer's specification below:- .

F10 Ibstock Brick Walling

110 CLAY FACING BRICKWORK Bricks: To BS EN 771-1. Manufacturer and Reference: Ibstock
Brick A3616A Product Name: Ramian Red Stock

Configuration: Single Frog

Compressive Strength

Mean Value: 20N/mm²

Freeze/Thaw Resistance: F2

Work Sizes (length x width x height): 215x102x65 [mm] Tolerance category: T2

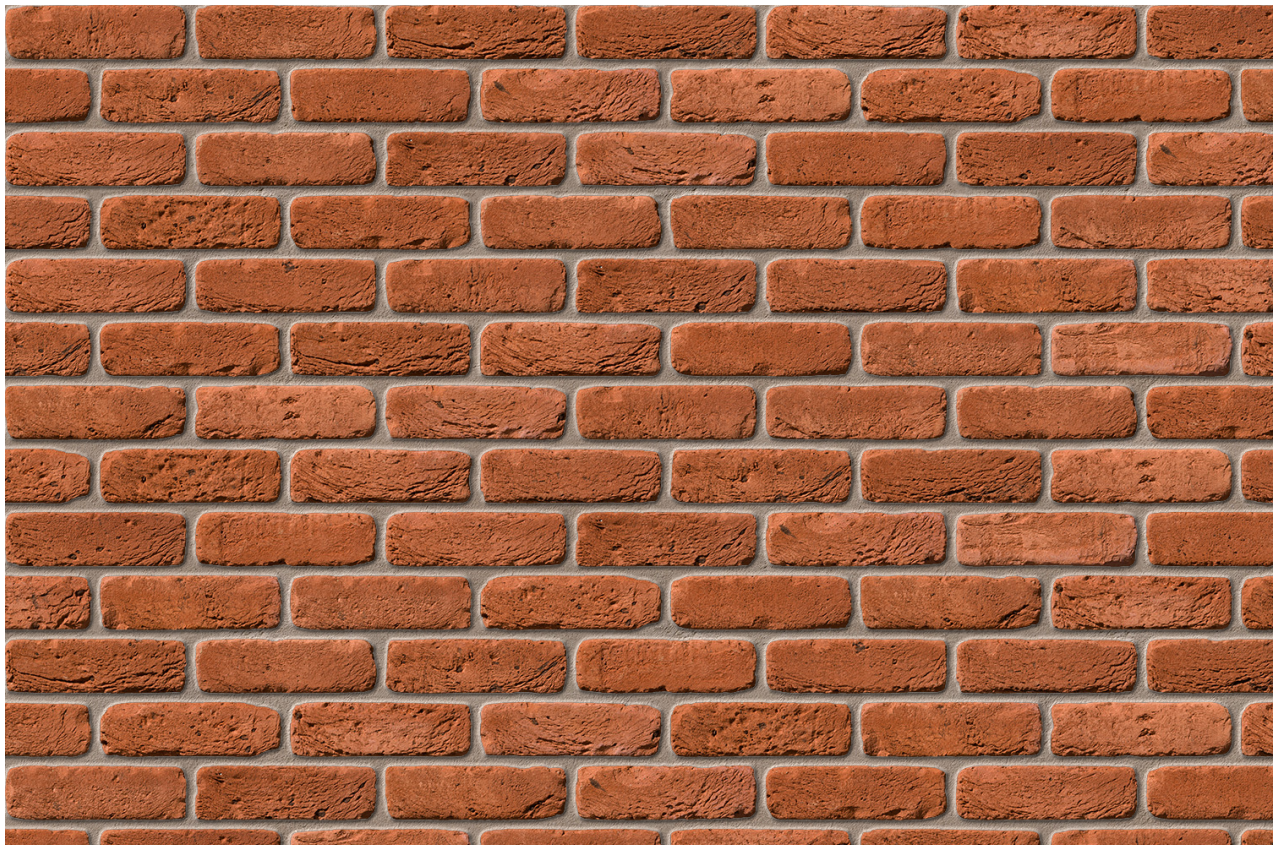
Additional requirements:

Density- Gross Dry: 1530Kg/m³

Thermal Conductivity: 0.8W/mk

Water vapour permeability: tabulated from BS EN 1745: 5/15µ Water absorption: 18%

Reaction to Fire: Euroclass A1



Replacement Slates

4. REPLACEMENT SLATES

The missing or damaged slates from the main pitched gable end roof are to be replaced with 7mm Leon Black Riven slate from Lagan Building Solutions as manufacturer's specification enclosed.

