BARNSLEY Local Plan

Supplementary Planning Document

Mortar Mixes For Historic Buildings

Adopted May 2019

BARNSLEY Metropolitan Borough Council

Contents

Supplementary Planning Document: Mortar Mixes For Historic Buildings

1. About This Guidance

1.1 The National Planning Policy Framework (NPPF) indicates that Local Development Documents form the framework for making decisions on applications for planning permission. Decisions have to be taken in accordance with the development plan unless other material considerations indicate otherwise. NPPF advises that a local planning authority may prepare Supplementary Planning Documents to provide greater detail on the policies in its Local Plan. Supplementary Planning Documents are a 'material' consideration when planning applications are decided.

1.2 As required by the Planning and Compulsory Purchase Act 2004 we have prepared a Statement of Community Involvement (SCI) which sets out how we will involve the community in preparing our Local Plan and consulting on planning applications. In accordance with the SCI we have involved people who may be interested in this Supplementary Planning Document and asked them for their comments. We have produced a consultation statement which summarises all the comments people made to us and our response. This is available on request.

2. Introduction

2.1 Historic buildings are best pointed with a mixture of sand aggregate that is well graded (that is to say sand that has a good mixture of fine, medium, and course aggregate), and natural hydraulic lime (NHL) . Cement binders are in general terms neither desirable nor necessary as long as good working practices are adhered to. In traditional walls and buildings lime mortars were the norm for centuries. However, following the First World War Portland Cement was generally adopted as a binder due to its strength, its faster curing properties and its consistency. However, when used to re-point, build or re-build historic or traditional walls it can be damaging. This is largely due to its strength which often exceeds that of the stone and a severe lack of breathability. By way of contrast, a correctly mixed and applied lime mortar retains some plasticity even when cured (it can reform without cracking), and is breathable so allows moisture to escape. In particular, strap (or ribbon) or weather-struck pointing in context with historic buildings that has horizontal ledges and includes cement is technically incorrect, physically damaging, and visually harmful.

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3. Policy

This document supplements Local Plan policy HE3 which states as follows:

Policy HE3 Developments affecting Historic Buildings

Proposals involving additions or alterations to listed buildings or buildings of evident historic significance such as locally listed buildings (or their setting) should seek to conserve and where appropriate enhance that building's significance. I such circumstances proposals will be expected to:

- Respect historic precedents of scale, form, massing, architectural detail and the use of appropriate materials that contribute to the special interest of a building.
- Capitalise on opportunities to better reveal the significance of a building where elements exist that detract from its special interest.

Proposals involving additions or alterations to listed buildings or buildings of evident significance will be expected to:

4. Suggested Mixtures

Suggested Mix and Important Considerations

4.1 Modern dry-hydrated hydraulic lime is generally marketed as 'natural hydraulic lime' or NHL. These are available in three grades of compressive strength (cured) of NHL 2, NHL 3.5 and NHL 5. When gauging natural hydraulic limes with sand / aggregate it must be remembered that a dry hydrate will have a different relative bulk density to sand (as do all powder binders). To account for this, most lime suppliers specify volumes of sand (usually to the nearest 10 litres) per full bag of NHL.

4.2 A typical general purpose lime mix ratio would be:

- 1 part NHL 3.5

  to

- 3 parts well graded aggregate or washed river sand.

4.3 The use of NHL 3.5 may be replaced with NHL 2 or NHL 5 where the environment dictates a mortar that has a lesser or greater compressive strength (respectively).

4.4 Close attention should be paid to the colour and appearance of the final cured mix to ensure decent sympathy of appearance with existing mortar. Colouring of the mix may be achieved using a specific aggregate or colourants. As such test panels for mortar samples are advisable and often a requirement of a listed building consent.

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5. Application

5.1 A detailed description of every technique for the use of lime mortar is beyond the scope of this guidance*. However in general terms, the existing joint should be excavated by hand to a depth of at least twice that of the width. Dust and debris must be removed and then the prepared joint must be sufficiently dampened to avoid suction and cracking of the new mortar. The joint must then be firmly packed from the back to remove voids with an appropriate pointing iron or tool in layers not exceeding 25mm. Any mortar smeared on the adjacent masonry should be removed with a damp sponge. Once the mix has cured sufficiently, the surface of the joint should be finished with a stiff churn brush to a slightly concave and gently stippled finish. This last stage is important because it further compacts the joint, removes laitance, exposes the courser aggregate, and aids curing. Following the application of the mortar, the works should be protected from frost, rain, or sun with hessian for as long as possible and at least a week.

5.2 * Technical guidance on the full range of scenarios where lime might be used can be found within Historic England's publication - *Repointing Brick and Stone Walls* found here:

https://historicengland.org.uk/images-books/publications/repointing-brick-and-stone-walls/

6. Further Information

6.1 For further information please contact the Conservation Officer on (01226) 772576.