Limetec® Hydraulic Lime Mortars

Product Datasheet for Moderate Hydraulic Lime Mortar

1. Introduction
Limetec® Hydraulic Lime Mortars are factory produced pre-mixed dry mortars using dried sands and hydraulic lime. The dry mortar is available in 25kg bags, 1T bulk bags or 20T bulk silos.

2. Suitable Uses
Limetec® Hydraulic Lime Mortars are suitable for blocklaying, bricklaying, stonemasonry.

3. Composition
Limetec® Hydraulic Lime Mortars are manufactured using natural hydraulic limes in grades of 5 or 3.5 or 2 (NHL), which are produced by burning argillaceous or siliceous limestone, high calcium lime (CL 90) and specially graded sand and aggregates.

4. Authority
Limetec® Hydraulic Lime Mortars comply with the durability requirements of BS5628: Part 3:2001. Mortar strengths are measured at 91 days as opposed to 28 days, as lime mortars gain strength more gradually compared to Portland cement based mortars.

Materials used conform to the following standards:

- Sand BS EN 13139: 2002
- Natural Hydraulic Lime (NHL) BS EN 459: Part 1: 2001
- Calcium Lime (CL90) BS EN 459: Part 1: 2001
- Pigments BS EN 12874

Admixtures, where used, do not contain calcium chloride.

5. General Advantages
Limetec® Hydraulic Lime Mortars offer several usage and mix advantages over cement and site mixed lime mortars:

- Reduces the need for expansion joints.
- Consistent mix proportions.
- Uses less energy to produce than cement.
- Consistent quality and colour of mortar.
- Re-absorbs CO\(_2\) when it cures and sets.
- Correct choice of sands.
- Allows masonry to be recycled at end of life.
- Mortars can be re-worked for up to 24 hours.
- Provides a breathable form of construction.
- Productivity savings no need to allocate one mixing.
- Aesthetically enhances masonry.
- Deterrent against pilfering wastage with silo use.
- Mortar is produced as and when needed when using silos.

6. Manufacture
Limetec® Hydraulic Lime Mortars are manufactured using factory batching techniques. Raw materials and end products are subject to regular quality control procedures and testing. The materials are weighed and mixed under computer controlled conditions with rigorous quality control procedures. Although mortar is traditionally specified by volume, it is generally accepted that batching by weight produces mortar of a greater consistency.

7. Storage
If stored under cover in dry conditions, has a shelf life of up to 18 months.

8. Quality Assurance
The product constantly undergoes third party and in-house monitoring, using tested and certified quality management systems.

9. Health and Safety
See separate Health and Safety sheet
10. Mortar Mix Proportions

**Limetec® Moderately Hydraulic Mortar**
Mix proportion 1:2.25 Limetec® Moderate Hydraulic Mortar will reach HLM2.0 (class IV) at 28 days and HLM3.5 (class III) at 91 days (good/high resistance to freezing & thawing, high resistance to sulphates).

<table>
<thead>
<tr>
<th>Mortar Class</th>
<th>Lime : sand (vol/ vol)</th>
<th>BS 5628 Mortar Durability Designation</th>
<th>Hydraulic Lime Mix Designation</th>
<th>Typical Compressive Strength (N/mm² @ 91 days)</th>
<th>Mortar Durability Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderately hydraulic</td>
<td>1 : 2.25</td>
<td>(iv) at 28 days (iii) at 91 days</td>
<td>HLM3.5</td>
<td>3.5</td>
<td>5-6</td>
</tr>
</tbody>
</table>

11. Performance

**Limetec® Hydraulic Lime Mortars** are more flexible than Portland cement based mortars, which means that expansion joints are not necessary in many circumstances.

**Limetec**® Hydraulic Lime Mortars offer good vapour permeability, which enables the building to “breathe”.

**Limetec**® Hydraulic Lime Mortars are formulated to meet the requirements of compressive strength and durability for masonry and can be used to lay up to 1.5m of brickwork per day.

**Limetec**® Hydraulic Lime Mortars are suitable for bedding flagstones/pavers internal or external. For external use an eminent hydraulic lime would be most suitable.

12. Coverage

For brick laying a 25kg bag of Limetec® Hydraulic Lime Mortars will lay approximately 25 bricks with a 10mm joint for a single brick skin, (20m² per tonne) or (1000 bricks per tonne of mortar). For re-pointing of brickwork a 25 kg bag will give 2.8m² of 10mm joint.

13. Sitework

See separate Limetec Method Sheets for Conventional Mixing and Laying Masonry with Limetec Hydraulic Lime Mortars.

When using 25kg bags or 1T bulk bags, mixing can be undertaken using a conventional drum mixer. The addition of water to the mix should be controlled to ensure that the mix does not become saturated.

Under certain circumstances results can be improved by re-mixing the mortar after allowing it to stand for 30 minutes up to 12 hours after the initial mixing process.

**Work should not be carried out if the temperature is below 5 °C**. If, after application, the temperature is expected to fall below 5 °C some form of protection such as dry layers of hessian or bubble pack must be given to the area of work. Without adequate protection there is a risk of frost damage during the curing process. Protect from rain and snow with polythene sheets or tarpaulin or similar.