

# TECHNICAL INFORMATION



## NATURAL HYDRAULIC LIME LIMELITE

Product Data Sheet

### PRODUCT DESCRIPTION

Tarmac Limelite is a range of Natural Hydraulic Limes conforming to EN 459-1. The following products are available:

Tarmac Limelite NHL 3,5: A moderately hydraulic lime suitable for general-purpose use for mortar/ pointing/ rendering of most masonry types.

Tarmac Limelite NHL 5: An eminently hydraulic lime suitable for use in masonry pointing, capping, foundations, seal defences and new build construction.

Our products contain no additives, mineral additions or Portland cement and are quality assured to EN 459-1: Natural Hydraulic Limes with independent third-party certification. They also carry a CE Mark.

### APPLICATIONS

Tarmac Limelite Natural Hydraulic Lime can be used for both the conservation and renovation of historic buildings, and in new build applications.

Mortars made with natural hydraulic lime gain strength by a combination of hydraulic setting and carbonation. The lower strength and greater permeability of natural hydraulic lime mortars when compared with cement-based mortars is particularly suitable for repairs to older buildings and for traditional style new build.

Natural hydraulic lime mortars have good workability and plasticity and can accommodate some differential movement within the building .



Natural Hydraulic Lime used for pointing new build construction



Historic internal wall repaired with Natural Hydraulic Lime mortar

## MORTARS

Typical hydraulic mortar mixes and their applications are shown below:

Mortar Mix Proportions (By Volume)			
NHL 3.5: Sand	Typical Application	NHL 5: Sand	Typical Application
1:1	-Walls below DPC -Chimneys -Earth retaining walls	1:1	Submerged masonry
1:2	-External walls -Copings and cappings -Parapets and sills	1:2	-Walls below DPC -Chimneys -Earth retaining walls
1:3	-Facing to solid construction	1:3	-Copings and cappings -Parapets and sills
1:4	-Internal walls	1:3-4	-Walls above DPC

## RENDERS

The selection of suitable render mixes, whilst following the guidance for mortars, must also consider the nature of the substrate to which the render will be applied. The type of sand used will also affect the final finish obtained. Guidance on selection of mixes for different substrates is given below:

Render Mix Proportions NHL 3.5:Sand (By Volume)		
Substrate	Basecoat	Finish Coat
Weak or porous (soft brick)	1:2	1:25
Medium strength	1:2.5	1:25
Impervious or dense brick	1:2.5	1:3
Plasterwork	1:2	1::3

**Note:** As a general rule, each successive coat should be weaker and/or thinner as you move away from the substrate

Render Mix Proportions NHL 5:Sand (By Volume)		
Substrate	Basecoat	Finish Coat
Weak or porous (soft brick)	-	-
Medium strength	1:3	1:3
Impervious or dense brick	1:2.5	1:3
Plasterwork	-	-

**Note:** As a general rule, each successive coat should be weaker and/or thinner as you move away from the substrate

## BATCHING AND MIXING

### Sand

Sand for lime mortars and renders should be sharp sand, clean and well graded, free of clay or silt. Building (soft) sands, or sands containing clay and silt, can cause excessive shrinkage.

### Water

Mixing water should be clean and potable. Adding too much water should be avoided as it leads to a reduced strength and an open structure susceptible to frost attack.

### Batching

Mortars and renders containing natural hydraulic lime should always be batched by volume using batch boxes.

### Mixing

Sufficient mixing is required to ensure that the lime is uniformly dispersed throughout the mortar or render. Mechanical mixing is preferred and mixing times should be significantly longer than for cement-based mortar.

The workability of the mortar improves with increased mixing time (however, avoid over mixing in hot weather). Allowing the mortar to stand in the mixer drum for a short period of time (10-15 mins), before a final remixing will also improve workability.

## USE OF ADMIXTURES AND ADDITIONS

Many proprietary admixtures (especially air-entraining admixtures) can be used successfully in natural hydraulic lime mortars. However, attention should be paid to the admixture manufacturers instructions and trial mixes are always recommended.

The use of proprietary admixtures with natural hydraulic lime is not usually necessary as the workability and frost resistance of mortars or renders based on natural hydraulic lime is usually adequate for most applications.

In certain circumstances however, the addition of materials such as pozzolans or ground blastfurnace slag may be used to increase the mortar strength. The addition of Blue Circle Hydralime (hydrated lime) can also be used to improve the plastic properties of the mortar and/or reduce its strength. Trial mixes are always recommended.

## STORAGE

Natural Hydraulic Lime should be stored in unopened bags clear of the ground in cool dry conditions and should be stacked in a safe and stable manner.

Information on the maximum storage period can be found on the bag.

### TECHNICAL SUPPORT

Further information or specification advice on Tarmac Limelite Natural Hydraulic Lime and the full range of Tarmac Cement products can be obtained through the contacts listed below.

### HEALTH AND SAFETY

Contact between natural hydraulic lime and body fluids (eg, sweat and eye fluids) may cause irritation, dermatitis or burns. Natural hydraulic lime releases alkali when mixed with water, and the use of protective goggles, gloves and clothing during batching, mixing and application is recommended.

For further information, refer to the Tarmac Health and Safety information sheet (MSDS) for Tarmac Limelite Natural Hydraulic Lime.

#### For further information

##### Technical helpdesk

Tel: 0845 812 6232

E-mail [info-cement@tarmac.com](mailto:info-cement@tarmac.com)

##### Customer services & sales

Tel: 0845 812 6300

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