Insulating Render

Product Data Sheet

A dry ready mixed Natural Hydraulic Lime Render for thermal Improvements.

CORNERSTONE™
PROTECTING THE PAST & PRESENT

Product Description

Dry ready mixed Insulating Lime Render designed for internal and external use to reduce thermal losses in solid walls.

Mix Ratio

Only available as a 2: 5 mix ratio including fibres.

Binder

Saint-Astier NHL2.

Aggregate

2mm down recycled glass aggregate.

Usage

Cornerstone Insulating Render is designed to improve the thermal performance of solid walled masonry, whilst maintaining the high vapour permeability and low strength of an NHL2 render. Insulating Render offers a viable solution for Part L1B legislation in that it meets the requirements for improving the thermal performance of a wall, whilst maintaining a permeable fabric which absorbs and readily allows for the evaporation of moisture or increase the risk of long-term deterioration of the building fabric or fittings. With a measured K Value of 0.12, a 50mm application of Insulating Render will improve the U value of a solid wall by 50% or more, significantly reducing heat loss.

Most available lightweight/insulating materials use aggregates that have a two-dimensional structure, when these are subject to pressure during application the aggregate can breakdown, reducing both the thermal performance and durability of the mortar. Cornerstone Insulating Render uses a specialist hardened, non-porous, lightweight aggregate with a three-dimensional structure. It does not breakdown under application and improves both the durability and insulating properties of the render. The void structure in the render can also accommodate salt deposits (to a degree).

Fibre additions improve the flexural strength of the render, distributing stresses across the render to help reduce point loading, and negate the need for any mesh to be applied to the wall or inserted within the render.

Due to its lightweight nature, Insulating Render can be applied at depths of up to 50mm per pass. It can also be applied green on green through to the finish with appropriate suction, making the application significantly easier and faster than standard lime renders and plasters.

Insulating Render can also be used in sustainable construction projects as a basecoat onto natural building materials such as hemp, straw and rammed earth. The insulating properties help reduce the thermal expansion differentials between the background and any subsequent coatings.

For internal applications it can be applied as backing coat or through to finish coat, or finished with a plaster such as Cornerstone Promix Superfine.

For external applications, apply as a backing coat with Cornerstone NHL2 Promix Medium or Fine as a finish and a suitable mineral based paint. Please note; if not protected and the render remains wet the insulation value will be reduced.

Suitable for application onto most host surfaces with suction.

If working on weak/friable backgrounds such as cob, please contact us for further application information.

Do not use this product if the temperature is above 30°C, below 5°C or if the risk of frost or snow is present within the next few weeks, this includes temperature drops associated with wind-chill.

Coverage

After mixing, a 9kg bag will produce approximately 15 litres of mortar. This will cover 1.5m^2 at 10mm thickness.

Benefits

- Warmer buildings
- Reduced heating costs
- Management of relative humidity and condensation within living areas
- Consistency of product compared to site mixed alternatives

Colour and Texture

Cornerstone Insulating Render is entirely natural in colour. No pigments or colourants are added. When finished it often has a slightly textured surface but is typically white. However, please note that colour variation is still possible due to the use of natural and recycled materials in the product.

Preparation

We would expect appropriate preparation in accordance with best practice; where the surface is clean, free of dust and other debris.

Where necessary the background should be adequately dampened to promote adhesion/bond with the host surface.

Dense impervious backgrounds/materials are unlikely to be very absorbent and require little to no

Manufactured by Cornerstone Mortars
Cornerstone products are CE marked
and manufactured under an ISO9001:2015
accredited Factory Production Control System.

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dampening, whereas more absorbent backgrounds/materials require adequate dampening in order to prevent rapid drying.

We have an application guide available for this product which covers some of the more technical aspects, it also offers some tips and advice so we recommend reading it in full before applying this product.

Mixing

A 9kg bag of mortar will require 4.5 to 5.5 litres of clean potable water. The water addition will vary according to the application and desired consistency/workability of the mortar. Always avoid making the mix too wet, as this can promote shrinkage issues, especially when used at higher thicknesses of render.

As a dry mixed material, it is possible that some settlement or separation may occur in the bag during transit; when mixing part bags, it is especially important that the dry contents are thoroughly blended prior to mixing with water.

Best Practice/Advised Mixing: First add 80% water of the total water into the mixer, followed by the dry render and turn the mixer on. Allow to mix until the water is thoroughly distributed, then add additional water to achieve desired consistency.

45L Belle mixers or larger are typically recommended due to the volume of product that is used.

Please refer to the mixing and application guidance document for more details.

Mixing Time: Mix for a minimum of 5 minutes, but for no longer than 10 minutes when using a belle mixer. For a whisk mix for no less than 1 minute and no more than 4 minutes.

Quenching: Like most lime mortars this blend will benefit from Quenching; allow the mortar to stand for 10 to 20 minutes after mixing, before use. Whilst this is not mandatory you may find the render stiffens a bit if used straight out of the mixer, it may need a splash more water with remixing or just knocking back up again after 20 minutes as a result.

Once water has been added, this mortar has an open time of at least 18 hours. Longer in colder weather.

Usage and Finishing

Areas of Use: This Insulating Render is suitable for use onto masonry backgrounds with some suction; for application onto tanking please consult us first as special application methods may be required. Render carrier boards like Celenit or similar are also suitable substrates however fine fibred wood wool or wood fibre insulation boards are not appropriate. For any other render carriers please contact us for more details on suitability.

Coats: Thickness of the coats will depend on the desired thermal improvement as well as the application method, spraying this render allows for deeper depths to be achieved faster. This product should be applied as part of at least a two-coat system.

Application: Due to the various ways and thicknesses this product can be applied, please refer to the application guidance document as this will give specific guidance on the most common application methods.

Packaging

This product is supplied in 9kg polythene lined paper bags, palletised for shipping and handling. The packaging is a mixed material and should be recycled accordingly.

Pallets contain 80 bags as standard at 9Kg each, we can supply these as up to 100 bags on request, however pallets can have height restrictions for certain delivery locations.

Storage

This product should be stored in dry conditions, in unopened bags and clear from the ground. Always protect bags from water and damp. Reseal part bags after opening if unused product is present.

Use within 6 months of manufacturing date (provided on each bag).

Health and Safety

RISK PHRASES: R36 / R37 / R38 / R43

- Avoid contact with skin and eyes.
- Contact with wet mortar may cause irritation, dermatitis and/or burns.
- Contact between lime powder and body fluid (sweat, eye fluid etc.) may cause skin burns and respiratory irritation, dermatitis or burns.

SAFETY PHRASES: S2 / S24/25 / S26 / S37

- Avoid eye and skin contact by wearing suitable eye protection, protective clothing and gloves.
- Avoid breathing dust.
- Keep out of reach of children.
- On contact with skin and/or eyes, rinse immediately with clean water and seek medical attention.

Declaration

Cornerstone lime mortars for renders and plasters are manufactured to the requirements of BS EN 998-1: 2016.

This product will contain no Portland Cement whatsoever.

Document Control

Datasheet version 1.7, issued September 2024. More modern versions of this document will supersede this datasheet, with no exclusions.

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