SuperTherm

Mixing & Application Guidance

An ultra lightweight and highly insulating wall coating for internal applications.

CORNERSTONE™
PROTECTING THE PAST & PRESENT

Introduction

SuperTherm is an insulative plaster designed to serve as both a base coat and a high-performance thermal layer. With a thermal conductivity (λ) of 0.04 W/mK and a compressive strength of 3 N/mm², it delivers significant energy efficiency improvements while remaining fully compatible with hand application.

Its ultra-lightweight structure is achieved through controlled air entrapment within the plaster matrix, a key factor in achieving low thermal conductivity. Because of this, SuperTherm may feel or sound different (even slightly hollow) compared to standard plaster. This is completely normal and does not indicate weakness; once cured, it maintains a compressive strength of 3 N/mm² and is fully stable.

Application is similar to a standard base plaster coat: ensure a consistent build-up to achieve maximum insulation performance. Always finish SuperTherm with a meshed final top coat plaster layer. For guidance on suitable finishing plasters, please contact us for recommendations.

Due to its lightweight nature, SuperTherm should not be pressed or worked into the substrate like a typical dense sand and lime plaster.

SuperTherm can still be applied in a traditional manner with a trowel, however as traditional application compresses the material, it will not impact the integrity of the material, but will have some impact on its thermal performance. Sprayed or cast on will give the best insulation values possible.

For all application types it is recommended that the product is levelled with a serrated edge as to not overwork and compress the material; we do not recommend floating the product if possible, however if floating is needed then it should be with a light hand to avoid compressing the material.

SuperTherm has been tested with an InoBEAM F30 sprayer. This machine does not have an attached mixing unit, the material is mixed independently and then poured into the spraying machine.

The material will pump with ease and should work through similar machines where mixing is separate to the spray unit. For further information on this type of application, please contact us.

Supertherm also works through Sablon gun type air fed sprayers, single opening nozzles/faceplates were used at the time.

SuperTherm has not yet been tested to go through conventional all in one spray application machines and as such this type of application is not recommended.

Substrate Preparation

Clean the Substrate: Ensure the surface is free of dust, debris, and any non-breathable coatings that might hinder adhesion.

Moistening: Dampen the substrate to reduce suction. Over-wetting the substrate will lead to a reduction in the total coat depth achievable, but should not have a detrimental impact on the strength development of the product. We would recommend more moisture than less; this is not a product you will be finishing like a typical render (e.g. floating with pressure) so keeping it damper on the wall allows for greater flattening and staffing time.

Primer/Key Coat if required

For overly smooth, very high or low suction substrates, consider applying a bonding coat render to improve adhesion. This is particularly helpful when applying onto low-porosity materials to help reduce the risk of slump with deeper coats.

The recommended primer coats for Cornerstone Supertherm are Cornerstone Promix Fibred Basecoat, Cornerstone Trass Render or Cornerstone Bonding Coat.

Please refer to the specific product data sheet for further guidance. Modern primers and bonding agents are not

suitable for use with SuperTherm.

Mixing the Plaster

Consistency: Prepare the plaster to a workable consistency, avoiding excess water, which can compromise the plaster's strength and can increase the risk of plastic shrinkage.

SuperTherm is recommended to be mixed in a conventional cement mixer.

SuperTherm can be mixed with a plasterer's whisk. However, due to the lightweight nature of the material, using a whisk will slow the speed of set of the material and requires additional curing. We would advise allowing 2 weeks curing between coats, compared to the 1 week when using a cement mixer.

A 15ltr bag of SuperTherm will require 4.6 to 5.2 litres of clean potable water. The water addition rate may be somewhat variable from bag to bag, that is unavoidable due to the nature of the aggregate being used; we would recommend mixing by consistency rather than by a measured water addition rate. It will not affect the final strength achieved on the wall.

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 plaster.

SuperTherm should only be used as full bag mixes, do not part mix bags. Mixing: Add 80% of the water, followed by the dry plaster. Allow the material to mix for 2-3 minutes and then add additional water if required and continue to mix.

When using a cement mixer, it is advisable to check the mix every few minutes, due to its lightweight nature the back and sides of the mixer may need scraping clean. We also recommend covering the mouth of the mixer when it is first turned on, as this is a very lightweight material the powder can splash.

Batch Mixing: Consistently mix batches if applying a multi-layered approach to ensure uniformity in the plaster's thermal and structural characteristics.

Hand Application of Supertherm

We recommend application of a 3-5mm scrape coat onto all substrates, this should be no more than 5mm in depth, but not so shallow that holes are left from the back edge of the trowel. This should serve to allow the plaster to have sufficient force applied to form a good bond with the substrate.

This base layer/scrape coat cannot be left to dry, harden or set; this must be a wet-on-wet application; a one coat, two pass type layer. This should be immediately overcoated to achieve the desired thickness of the coat.

SuperTherm can be applied up to 50mm.

The plaster should be levelled with a serrated straight edge or a notched trowel. A light touch is recommended, as this will not compress the insulation.

The angle of the serrated edge or trowel will determine the key for the next layer. If only one layer of SuperTherm is being applied the serrated edge/trowel should be run flatter to the wall to provide a shallower key for the finish coat.

If applying an additional layer's of SuperTherm, the serrated edge/trowel should be run at a greater angle to provide a deeper key for the subsequent coats. These keys should always be run horizontally.

Curing

Slow and Steady: SuperTherm will benefit from slow curing. Keep the environment humid or mist the surface occasionally during the first 7-10 days to prevent rapid drying and to assist in strength development.

SuperTherm will be slow to develop strength during the first 2 to 3 days, but will then pick up strength significantly after this.

This plaster loves water; we cannot stress strongly enough that keeping it damp in the early stages will give the best performance possible out of this product.

Temperature Control: Avoid applying plaster in extreme temperatures. Ideal application is between 5°C and 25°C. Protect the plaster from frost.

Point Loading

When checking the hardness of SuperTherm, avoiding point loading (i.e. hitting the surface with a knuckle or pointed finger), always check with a flat hand.

This material needs to be treated as an insulation layer, similar to a modern boarded system. The reason for this is that point loading can compress the isolated area, when cured the product achieves a compressive of 3N and will remain solid as a single layer.

This is why we always advise a mesh within the top coat layer, to better distribute stress and reduce the risk of point loading.

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

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Topcoat

SuperTherm cannot be left as an exposed finish, it will require one of the below finish coats.

For Internal Applications: Use SuperTherm Topcoat, Cornerstone Promix Fine or Cornerstone Promix Medium.

Finishing Plaster should be applied as a 2-coat application.

Apply a first pass at 2 to 3mm, with an alkaline resistant plastering mesh embedded into this coat.

Curing: Finish coats should be cured in the same manner as SuperTherm (detailed above).

Painting

Allow the plaster/render to cure for a minimum of 4 weeks.

Internal Decoration: We would recommend using the Beeck Maxil Pro Interior Silicate paint, Beeck Clay Protect Claypaint or Conerstone Lime Paint for internal applications.

These our recommended paint systems for the SuperTherm application, other paints may be suitable but we would strongly advise that you contact your stockist or ourselves for further guidance on this.

Document Control

Datasheet version 1.3, issued February 2026. More modern versions of this document will supersede this datasheet, with no exclusions.

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