

APPLICATION GUIDE

RENDERING ON HEMP CONCRETE OR HEMP BLOCK WITH KALAMUA

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1. FIELD OF APPLICATION:

This document explains the use and application of KALAMUA®, rendering mortar, developed by Saint-Astier®, for renovation or new construction work. This one coat render can be applied externally and internally on hemp concrete or hemp blocks.

Annule et remplace les éditions précédentes.

Ce document peut être modifié en fonction de l'évolution des techniques. Il appartient aux utilisateurs et aux prescripteurs de vérifier avant toute mise en œuvre, qu'il s'agit bien de la dernière édition. Les données techniques et conseils pratiques contenus dans ce document ne sont qu'indicatifs. Ils font partie des réglementations professionnelles en vigueur (D. T. U. ou autres documents officiels), ils accompagnent des pratiques locales ou des savoir-faire et peuvent compléter des documents de maîtrises d'œuvres relatifs à des passations de marché.

2. SYSTEM COMPONENTS:

2.1 KALAMUA® is a one coat render mortar (OC) in accordance with EN 998-1(BS 998-1) Standard, formulated with Saint-Astier hydraulic lime, selected sands, specific additives and mineral pigments.

- Main Characteristics: OC CSI- Wc1
- Granulometry: 0/1,3mm
- Packaging: 25 kg bag, pallet 1T

2.2 Fibreglass mesh characteristics:

- ⇒ Alcalis resistant
- ⇒ Weight/square metre 140g/m² - mesh size: 10mm ± 2 mm
- ⇒ Stretching resistance > 5 N/mm
- ⇒ Traction resistance > 35 N/mm

3. APPLICATION

3.1. General assessments

The KALAMUA should be applied at temperatures between +5°C and 30°C.

Work must not be carried out during periods of frost, rain or fog, or on wet substrates. Hemp concrete substrates must be protected from excessive damp until the KALAMUA render has been applied, otherwise the cohesion of the render on the substrate will be compromised.

The render must not be applied during hot, dry winds or on surfaces exposed to direct sunlight in summer.

The preparation, application methods and consumption of the coating are described in the technical data sheet.

For exterior renders, the solar absorption factor of the finish must be less than 0.7 in lowland areas and 0.5 in mountain (areas at altitudes above 1300 metres). The difference in solar absorption between two adjacent colours on the same façade must not exceed 0.2. If this is not the case, a joint must be created between the two colours of render, using for example a joint profile.

The heads of walls and window sills must be protected by a correct overhang, coping or drip edge, fitted with a device (*Roof Raised Edge Trim*) to keep rainwater more than 30mm away from the finishing render.

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3.2. Preparation substrates

- ❖ Hemp concrete made with our specific lime binder BATICHANVRE® and approved hemp shive.
- ❖ Hemp blocks from BIOSYS® and Multichanvre hemp blocks from "Vieille Matériaux" or ISOHEMP®.

3.3. Moisture control of the substrate

- ❖ For hemp blocks

The drying time for the masonry must comply with the block manufacturer's recommendations and must, under no circumstances, be less than one month after the placement and roofing have been installed.

Not respecting this drying period can lead to the appearance of cracks due to differential settlement.

- ❖ For hemp concrete

Drying time must be as noted in the documentation Guide to Saint-Astier® lime and hemp solutions.

3.4. Flatness of the substrate

It must be variation of the verticality < 0,5 cm/m variation under a 2 m straight edge 2 cm.

3.5. Preparation of the substrate

The substrate must be sound, clean, free of dust and of all non-cohesive parts and products that could affect the correct adhesion of the render.

In the event of localised damage (dents resulting from accidental impacts, etc.), repairs must be carried out in accordance with the block manufacturer's recommendations. These repairs must be allowed to dry for at least 10 days before rendering over them.

The edges of the outgoing corners must be made using corner strips. The corner strips are fixed to the edges using KALAMUA mortar at least 24 hours before applying the render.

At all of the corners of the openings, inbed additional pieces of fiberglass mesh. These pieces should be positioned on the façade (minimum dimensions 60 x 40cm) and at the junctions between the lintel and the jamb. The meshes are fixed in place with KALAMUA mortar during the first pass or at least 24 hours before the render is applied.

It is necessary to dampen the substrate with a light water mist before applying the render, without soaking it. This is done at least 30 minutes before applying the render. If necessary, moistening is repeated as the work progresses.

3.6. Application of KALAMUA

It is applied in two passes:

- The first pass is applied at a thickness of 8 to 12mm, and the 10x10mm fiberglass mesh is embedded into this first pass. The vertical and horizontal overlap between strips must be at least of 10cm. Mesh will be positioned where necessary around windows and doors (see paragraph 3.5).
- The second coat should be applied as soon as the first coat has firmed up and up to a maximum of 24 hours after the first application. The thickness of the second coat should be 8 to 12mm.
If the second coat is applied the following day, the first coat should be adjusted with a notched trowel (devil float or similar) to ensure that the surface is rough enough to ensure good adhesion.
- The final thickness of the rendering, after finishing, should be between 15 and 20mm.

3.7. Types of Finish

The finish will be scratch with a devil float, or scratch and floated with a sponge.



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3.8. Additional information

Separate the render from all contact to all protruding elements of the façade (door and window frame, timber...) by creating a recess in the total thickness of the render (3mm maximum) and applying an adapted sealant (silicone, acrylic...).

For all type of finishes, depending on atmospheric conditions and particularly hot weather, it is advisable to demp in the form of a light mist for several days after application (humidify from the bottom to the top to avoid dropping).

Facades that are most exposed to the weather can be treated with a surface waterproof agent (apply from the bottom to the top for better impregnation). This treatment shall be carried out on a uniformly dry render, at least one week after the render has been applied.

4. GUARANTEE

Saint-Astier® is covered by civil liability insurance, which is renewed annually.

The company applying the plaster must therefore check with its insurer that it is covered under its policy or, if necessary, take out an extended guarantee.

5. REFERENCE DOCUMENTS

- ◇ BS EN 998-1: Definitions and specifications of mortars for masonry - Part 1 : Exterior and interior mineral rendering mortars, December 2016
- ◇ Hemp professional French rules

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