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PRACTICAL GUIDE Installation Guide for Applying Mortar Screeds on Floors: KHOLAO® CHAPE (screed) – Detailed Application Guide

Technical Guide: Application of KHOLAO® Chape

1. Introduction

KHOLAO® CHAPE is a ready-mix lime mortar designed for interior screeds in both traditional buildings and eco-construction. It is vapour-permeable, compatible with lime or cement substrates, and classified C5F1 according to EN 13813.

It is a Saint-Astier® hydraulic lime screed, breathable, and environmentally friendly, making it particularly suitable for:

- Historic building renovation
- Eco-conscious construction
- Floors over lime concrete, hempcrete, or traditional substrates

KHOLAO® Chape offers low internal stress, excellent adhesion, and a smooth, durable finish suitable for subsequent flooring layers such as tiles, wood, or natural stone.

2 Site Preparation

Proper substrate preparation is critical for a successful screed application. Steps include:

1. Substrate Inspection: Ensure the structural floor is stable, clean, and free from dust, debris, oils, or coatings. Any cracks or irregularities should be repaired before screeding.
2. Dampening: Lightly moisten the substrate to improve adhesion. Avoid ponding water.
3. Edge Strips / Formwork: Install perimeter strips (e.g., cork, polystyrene) to allow for expansion and prevent screed from bonding to walls.
4. Level Marking: Use a laser or spirit level to mark the target height of the finished screed surface. These reference marks will guide screeding and leveling.

Note: KHOLAO® Chape can be applied on new or old lime-based substrates, provided the substrate is cured and dampened. If you have a substrate with low absorption or a waterproof surface, a primer must be applied before laying the screed.

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3. Tools and Equipment

- Clean water
- Mixing equipment: concrete mixer, compulsory mixer, or screed pump
- Trowels, floats, and spades
- Straightedge or screed boards for leveling
- Laser or spirit level
- Protective equipment: gloves, goggles, knee pads

For large-scale applications, a screed pump is recommended to ensure uniform consistency and speed up application.

4. Mixing Instructions

Mixing Ratio: Follow manufacturer guidance (usually 2–3 L of clean water per 25 kg bag).

1. Pour water into the mixer.
2. Gradually add KHOLAO® Chape while mixing.
3. Mix until the mixture reaches a “wet sand” consistency, workable but not fluid.
4. Total mixing time: ~5 minutes until homogeneous.
5. Workable time: ~3 hours at 20 °C.

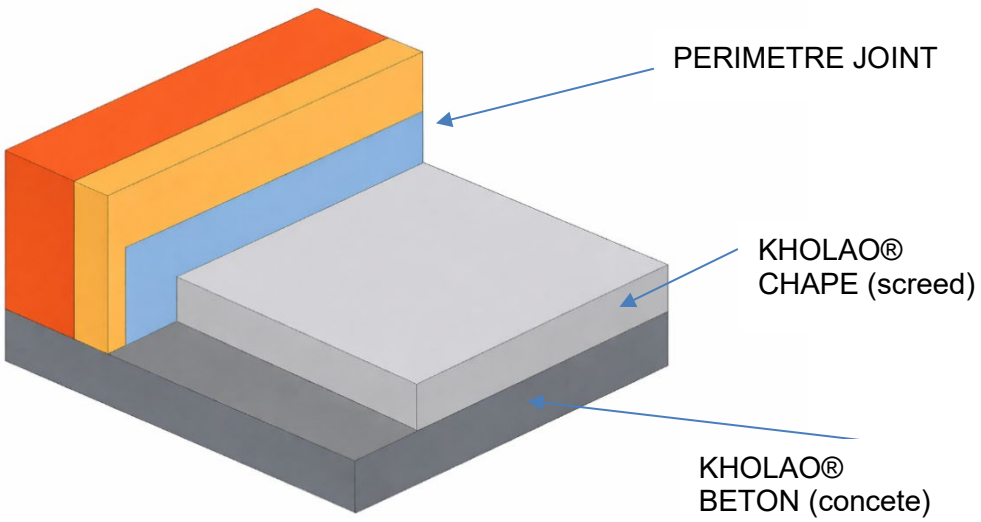
Avoid adding extra water beyond recommended quantities, as this can weaken the screed and increase shrinkage.

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5.Application Procedure

5.1 Pouring

Once the screed mixture has been prepared to the correct consistency, it should be immediately placed onto the prepared substrate in manageable sections. The material must be evenly distributed across the surface using shovels or screed rakes, ensuring that the mix fully covers the substrate and fills any irregularities or depressions. The screed is then compacted and roughly levelled before final finishing. Using a straightedge or screed board guided by previously established level markers, the material is drawn across the surface with a sawing motion to remove excess material and achieve a uniform thickness. During this process, additional screed should be added where low areas appear and compacted again to maintain consistent density. Particular attention should be paid to corners, edges, and transitions between sections to avoid weak points or air pockets. After leveling, the surface is finished with a float or trowel to compact the top layer and produce a smooth, even finish. The operation should proceed continuously across the working area to ensure a homogeneous surface and prevent cold joints between batches.



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5.2 Leveling

- Use a straightedge or screed board to level the surface according to the reference marks.
- Work systematically across the room to avoid leaving ridges or low spots.

5.3 Floating and Finishing

- After leveling, compact and smooth the surface with a float.
- Use a trowel to finish edges and corners.
- Ensure uniform thickness and no air pockets remain.

5.4 Joints

- For areas larger than 60 m^2, expansion joints should be incorporated in accordance with EN 1992-1-1 (Eurocode 2) - DTU 26.1 to reduce the risk of cracking.
- Avoid excessive thickness; maintain 3–10 cm as recommended.

6. Curing and Drying

- Protect screed from rapid drying, direct sunlight, or drafts.
- Maintain light moisture during the first 3–7 days to prevent shrinkage cracks.
- Light foot traffic may be allowed after ~3 days.
- Full drying before installing bonded flooring should be at least 7 days, depending on thickness and ambient conditions.

Tip: Covering the screed with damp burlap or a light plastic sheet can improve curing consistency.

7. Best Practices

- Maintain uniform hydration during early curing.
- Avoid applying in temperatures below 5 °C or above 30 °C.
- Use screed pumps for large areas to reduce manual labor and ensure homogeneity.
- Avoid walking on the screed with heavy or pointed footwear during early curing.

8. Quality Control

- Check surface flatness with a straightedge or laser.
- Inspect for cracks or uneven spots and repair before final drying.
- Verify screed thickness matches project specifications.

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9. Recommendations for Subsequent Flooring

- Compatible finishes include tiles, natural stone, wood, or cork.
- Always use adhesives compatible with lime-based screeds.
- Ensure screed moisture content is within the acceptable range for flooring installation.
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Small Guide: Underfloor Heating

(Compliance with applicable regulations must be verified in each country, and it must be confirmed whether this application is approved under local standards)

- Lay the thermal insulation boards on the prepared substrate.
- Ensure boards are stable, flat, and tightly fitted without gaps.
- Avoid compressing or deforming the insulation to maintain thermal performance.
- Check that the surface is level and free of debris before proceeding.

1. Underfloor Heating Fixing

- Place the underfloor heating pipes or mats on the insulation following the layout plan.
- Secure the pipes/mats using clips, fixing rails, or mesh supports to prevent movement. All fixing elements (clips, rails, mesh supports) must be anti-corrosion to prevent rusting and maintain system stability over time.
- Ensure proper spacing according to manufacturer recommendations to guarantee even heat distribution.
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Check that the system remains stable and does not create pressure points on the insulation.

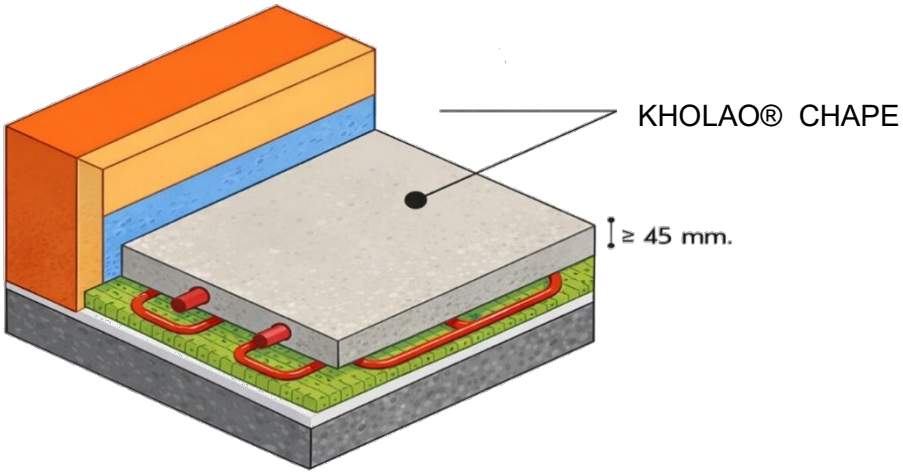
2. Lime Screed Application (Minimum 5 cm)

2.1 Prepare the lime-based screed to the correct consistency: Water is added gradually to achieve a more fluid consistency that ensures good coverage without segregation
2.2 Pour the screed over the underfloor heating system, ensuring a minimum thickness of 4 cm above the pipes.
2.3 Distribute and level the material using a straightedge or screed board.
2.4 Compact and finish the surface with a float or trowel, paying attention to corners and edges.
2.5 Work continuously to avoid cold joints and ensure a smooth, homogeneous surface.

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Notes:

- Maintain ambient temperature (8–30 °C) and substrate moisture conditions during application.
- Follow EN 13813:2002 for screed materials and EN 1992-1-1 principles for structural overlays if applicable.



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