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Uw partner in restauratie en renovatie
Votre partenaire en restauration et rénovation
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RC CALCIFIX

NATURAL HYDRAULIC LIME BINDER FOR FLOOR SCREEDS

Lime Products



ADVANTAGES

- ✓ Suitable for renovation, restoration and new-build projects
- ✓ Made from 100% natural raw materials
- ✓ Lower CO^2 emissions during production/extraction of raw materials compared to cement
- ✓ Excellent compressive and flexural strength
- ✓ Outstanding vapour permeability and moisture regulation
- ✓ Slower curing, therefore reduced shrinkage
- ✓ Contains no anhydrite or gypsum
- ✓ Less odour nuisance during application compared to a cement screed

Description

RC CALCIFIX is a high-quality binder based on natural hydraulic lime (NHL5), specially designed for producing screed mortar. This binder provides a durable and environmentally friendly solution for floor applications, offering equal or even superior technical performance compared to conventional cement screeds.

With RC CALCIFIX you create a screed that excels in compressive and flexural strength, with reduced shrinkage and improved abrasion resistance, without compromising on quality and durability. Thanks to its breathable properties, the mortar ensures a healthy and durable floor with a lower CO^2 footprint compared to traditional cement-based binders.

These characteristics make RC CALCIFIX not only ideal for the renovation of historic buildings but also perfectly suitable for modern construction projects. The product combines traditional building methods with contemporary performance, making it a versatile choice for a wide range of applications.

Area of application

A screed based on RC CALCIFIX is particularly recommended in situations where breathable, moisture-regulating, salt-regulating and durable properties are important. This makes it suitable for a wide range of construction conditions, especially in historical contexts and where sustainability and environmental friendliness are key.

Substrate

Before starting work, the substrate must be checked to ensure good surface cohesion. Then clean and remove dust thoroughly. The substrate must be moistened before applying the screed, avoiding excess water (in the case of bonded screeds).

RC CALCIFIX is particularly well suited to be applied as an ecological flooring system, for example on hemp-lime insulation or other sustainable floor insulation systems.

Vapour control layer: a vapour control layer between the (hemp-lime) insulation and the lime screed is not technically required. We do, however, recommend a vapour-permeable membrane, e.g. Isover Vario KM Duplex UV. This is the safest choice for moisture management within the floor build-up and also keeps the layers separable with a view to circularity.

Application instructions

Preparation: Ensure a clean, stable and dust-free substrate. Moisten the substrate slightly before applying the screed.

Mixing: Mix the lime binder at a ratio of **250 kg per m³ of aggregates such as Rhine sand 0/4**, until a homogeneous mixture is obtained, with the addition of 160–200 L of water per m^3 (to be adjusted on site depending on the moisture content of the aggregates and the ambient conditions).

Recommended thickness: between 4 and 10 cm, depending on the specific application and load. A commonly used thickness is 8 cm.

Application: Apply the screed evenly and level using a straightedge. Ensure proper compaction. Place perimeter insulation to prevent stress.

Reinforcement (mesh and fibres)

The use of reinforcement aims to distribute stresses within the screed caused by shrinkage and thermal movements, thereby reducing the risk of cracking, in accordance with the recommendations of Buildwise (Technical Information Note 189 – Screeds part 1 and Technical Information Note 193 – Screeds part 2: execution).

- For bonded screeds, reinforcement is generally not required.
- For unbonded and floating screeds, reinforcement is strongly recommended to limit cracking and deformation.
- At areas of reduced thickness (e.g. around service pipes or recesses), properly positioned reinforcement is recommended.

Typically, welded reinforcement meshes ranging from 50 × 50 × 2 mm to 150 × 150 × 4 mm (mesh size × mesh size × wire diameter) are used, with an overlap of at least 15 cm. The position of the mesh depends on the situation:

- Bonded screed of considerable thickness: in the upper half of the screed.
- Unbonded and floating screed: in the lower half, between the lower third and the middle of the thickness.
- Underfloor heating (always a floating screed): always a mesh, e.g. 50 × 50 × 2 mm, placed above the heating pipes with a minimum cover of 20 mm. With electric underfloor heating, approximately in the middle of the screed.

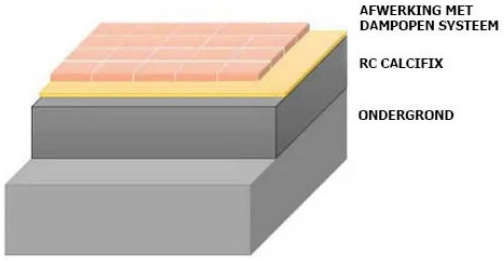
Alternatively, metal or synthetic fibres may be incorporated into the mortar. In certain cases, fibres can replace mesh reinforcement, provided correct design and dosage are applied. Always refer to the fibre manufacturer's guidelines and verify compatibility with RC CALCIFIX.

Curing: Keep the screed lightly moist during the first 48 hours to promote proper curing. Protect from extreme heat and draught.

For unbonded and floating screeds, provide expansion joints so that bays do not exceed 50 m^2 in area or 8 m in length (TIN 193).

Finishing

We strongly recommend finishing the screed surface, as it is not suitable to leave exposed due to its high porosity and consequent risk of damage or penetration by moisture, oil and other common stains.



The lime screed is compatible with various finishing layers such as tiles, natural stone, parquet, and other floor coverings. Please consult the technical specifications, and in particular the maximum permissible moisture content of the finishing layer, before applying it on the screed.

When using an adhesive for fixing, for example tiles, we recommend working with a vapour-permeable product such as KHOLAO® COLLE by Saint-Astier. The tiles can then be grouted with KHOLAO® JOINT by Saint-Astier.

If one nevertheless wishes to preserve the screed look, we recommend applying one or more coats of RC M040 or RC M060+. This treatment does not provide perfect or permanent protection and must be repeated periodically.

Consumption

250 kg (test results are based on 250 kg) up to 350 kg per m^3 of screed.

Technical information

Physical state	Solid (powder)
Density of binder	800 kg/m^3
Dry density of lime screed (incl. sand)	1,800 – 1,950 kg/m^3
Open time	± 3 h
Initial setting time	4h (±1h)
Walkable	After 3 days
Tiling	Minimum after 7 days with vapour-permeable systems

Buildwise Test Report DE-BE-0180 / DE-SW-0037 (2024) + SGS Intron 243503

	RC CALCIFIX (250kg/m^3) + Recycled aggregates 0/4	RC CALCIFIX (250kg/m^3) + River sand 0/4	Reference CEM II (250kg/m^3) + River sand 0/4
Compressive strength 28 days (NBN EN 13892-2) According to TV 189 Buildwise min. 8 N/mm^2 at 28 days According to the screed manual min. 5 N/mm^2 at 28 days	8,7 N/mm^2	7,3 N/mm^2	8,3 N/mm^2
Compressive strength 90 days (NBN EN 13892-2)	12,9 N/mm^2	10,9 N/mm^2	/
Flexural strength 28 days (NBN EN 13892-2)	2,3 N/mm^2	1,5 N/mm^2	2,3 N/mm^2
Flexural strength 90 days (NBN EN 13892-2)	3,5 N/mm^2	2,4 N/mm^2	/
Abrasion resistance (Böhme) (NBN EN 13892-3)	1 mm after 4 cycles 2,1 mm after 8 cycles 3,1 mm after 12 cycles 4 mm after 16 cycles	1 mm after 4 cycles 2,1 mm after 8 cycles 3,1 mm after 12 cycles 4 mm after 16 cycles	1,9 mm after 4 cycles 4,1 mm after 8 cycles 6,1 mm after 12 cycles 7,9 mm after 16 cycles
Surface cohesion (NBN EN 13813) According to TV 189 min. 0,5-0,8 N/mm^2 According to the screed manual min. 0,5-1,0 N/mm^2	1,85 N/mm^2 - 90 d (Class B1,5)	0,9 N/mm^2 - 28 d (Class B0,5) 1,0 N/mm^2 - 90 d (Class B1)	1,3 N/mm^2 - 28 d (Class B1)
Free shrinkage / hardening shrinkage (NBN EN 13454-2) According to TV 193 -0,05 to -0,1%	-0,053% - 14 d -0,074% - 28 d -0,105% - 90 d	-0,062 - 14 d -0,081% - 28 d -0,090% - 90 d	-0,068% - 14 d -0,098% - 28 d -0,112% - 90 d
Thermal conductivity (EN 12667)	54,3 W/m^2 - 28 d 50,6 W/m^2 - 90 d	62,4 W/m^2 - 28 d 56 W/m^2 - 90 d	59.2 W/m^2 - 28 d
Thermal conductivity (EN 12667)	591,4 mW/(m·K) - 28 d 517,0 mW/(m·K) - 90 d	924,8 mW/(m·K) - 28 d 668,1 mW/(m·K) - 90 d	784,2 mW/(m·K) - 28 d

Security

For more information, please refer to the most recent safety data sheet (SDS).

Remarks

- Apply screed only at temperatures between 8 °C and 30 °C.
- At lower temperatures, setting and hardening take longer. Higher temperatures accelerate setting and hardening and may lead to increased shrinkage.
- Both the environment and the substrate must be kept frost-free for at least 24 hours before and after work begins

Cleaning of equipment

Clean with water immediately after use.

Storage / Shelf life

- 1 year after production in unopened original packaging.
- Store only in the original packaging in a dry, cool, well-ventilated area.

Packaging

Big bag 1000 kg → sufficient for 4 m³ screed

Photos






Legal Notes
The information and recommendations contained in this document have been prepared in good faith based on the current knowledge and experience of Reynchemie, concerning products that are correctly stored, handled and applied under normal conditions and in accordance with our guidelines. Since practical conditions, materials and substrates may vary from one application to another, Reynchemie cannot guarantee the merchantability or suitability of the product for a particular purpose. The user remains responsible for carrying out preliminary tests to verify the compatibility of the product with the intended application. All stated values and properties are average results determined at 20 °C; reasonable deviations are acceptable. Products used in combination with this product within the same application system (such as preparation or finishing products) must always be applied according to the instructions provided in their respective technical data sheets. Reynchemie reserves the right to modify the composition or properties of its products without prior notice. Except where mandatory legal provisions apply, Reynchemie accepts no liability for damage resulting from improper application of its products or from failure to comply with the provided instructions. Third-party property rights must always be respected. All orders are accepted under the applicable sales and delivery conditions. Users must always consult the latest version of the local Technical Data Sheet (TDS) and Safety Data Sheet (SDS) for the respective product; copies will be provided upon request if not available on our website www.reynchemie.com.This document supersedes all previous versions.