

Keracem® Eco

Certified, eco-friendly, hydraulic, normal-setting and rapid-drying mineral binder for high-performance screeds and heat-radiant slabs, ideal for use in GreenBuilding. With very low volatile organic compound emissions. Recyclable as an inert material at the end of its life.

Keracem® Eco, mixed with inert materials of assorted grain size from 0 to 8 mm, creates screeds of high dimensional stability and constant moisture stability, guaranteeing the rapid, safe laying of ceramic tiles after 24 hours and hardwood floors after just 5 days.



GREENBUILDING RATING®

Keracem® Eco

- Category: Inorganic mineral products
- Preparation of the substrates
- Rating: Eco 2

				Very low VOC emissions	Can be recycled as inert material

RATING SYSTEM ACCREDITED BY CERTIFICATION BODY SGS

PRODUCT STRENGTHS

- Internal, external
- Low water/cement ratio
- Mechanical performances superior to those of Portland cements
- High dimensional stability and long-lasting performance
- Prolonged workability both in the manual and mechanical laying
- Suitable for laying ceramic tiles, porcelain tiles, natural stone, hardwood floors and resilient materials using adhesives

ECO NOTES

- Can be recycled as mineral inert material, avoiding waste disposal costs and environmental impact

AREAS OF USE

Use
Screed with normal setting and rapid drying, adherent to the substrate with thickness ≥ 20 mm, floating screeds with thickness ≥ 40 mm if mixed with suitable inert materials.

Compatible adhesives:

- gel adhesives, mineral adhesives with SAS technology, single and two-component organic adhesives
- reactive-epoxy and polyurethane, single and two-component cement-based adhesives, dispersed in water or solvent solutions

Covering materials:

- homogeneous tiles, ceramic tiles, klinker, cotto, glass and ceramic mosaic, of all types and formats
- natural stone, recomposed materials and marble including those subject to high deformation or rapid staining due to water absorption
- hardwood floors, rubber, PVC, linoleum, carpeting

Substrates:

- flooring in prefabricated concrete or fresh concrete castings, cement-based screeds, lightened concrete, panels for sound-proofing and thermal isolation

Screeds for internal/external use, in domestic, commercial and industrial applications, also in areas subject to thermal shock and freezing, underfloor heating systems.

Do not use
On deformable substrates, without having previously calculated the degree of flexure and having provided for the necessary fractionizing joints on the screed; in adherence on concrete castings which have not yet fully cured.

INSTRUCTIONS FOR USE

Preparation of substrates

Substrates must be dimensionally stable in accordance with BS 8204, clean, dry, free from any rising damp, without cracks, free from dust and loose, crumbling parts and must present a degree of stability suitable for its use. The screed to be covered must be separated from all vertical elements by means of a band of flexible material with a thickness of $\approx 8 - 10$ mm, along the entire height of the screed. The structural joints present in the substrate must be created accordingly also in the thickness of the screed.

Bonded screeds: to improve adhesion to the substrate apply a slurry key "wet on wet", prepared with 2.5 parts Keracem® Eco, 1 part eco-friendly, water-based Keraplast Eco P6 latex and 1 part water.

Floating screeds: when laying water-sensitive flooring, in case of substrates in which there is a risk of rising damp and substrates that have not been cured completely it is essential that a damp protection barrier is laid in compliance with current BS 8204. On lightened, low-density substrates or in the presence of layers (also thin layers) of thermal/acoustic insulating materials, the screed thickness will depend on the deformability class and load-bearing capacity of the materials mentioned.

Instruction for use

Keracem® Eco can be applied in a practical manner, following the traditional phases required to produce cement-based screeds. The screed can be machine or hand-finished while still fresh. Adjust the dosage according to the final finish required. If too much water is used this may result in shrinkage and cracking and a longer drying time.

Areas that have been started must be finished without any suspension in casting operations during the work itself.

Tools

Pressure mixers for screeds, concrete mixer. Wash machines with water before the product hardens.

Examples of mixing ratios

Dosage	Keracem® Eco	Inert materials	Water
200 kg/m ³	≈ 25 kg (1 bag)	≈ 200 kg (≈ 125 dm ³) *	max. 16 l **
250 kg/m ³	≈ 25 kg (1 bag)	≈ 160 kg (≈ 100 dm ³) *	max. 14 l **
300 kg/m ³	≈ 25 kg (1 bag)	≈ 135 kg (≈ 85 dm ³) *	max. 12 l **

(*) Value calculated considering an average density of 1600 kg/m³.

(**) Important: maximum value calculated with dry inert material. Local standards might request different proportions.

Cleaning

Residual traces of Keracem® Eco can be removed from machinery and tools using water before the product hardens.

SPECIAL NOTES

Other dosages: to obtain higher degrees of mechanical resistance it is possible to prepare screeds with proportions of binder greater than those indicated. In these cases greater attention has to be paid to the mix design of the mortar to be prepared, carefully selecting the granulometric curve of the inert material and the water/Keracem® Eco ratio.

Joints: screed must be desolidarised around the perimeter along the whole perimeter of the room, on the walls and on any other vertical elements protruding from the supporting layer.

Creating fractionizing surface joints, cutting the screed while still wet up to a depth that is about $\frac{1}{3}$ of the thickness and paying attention not to damage the reinforcement grid, if present. Their location and space distance must be determined at the design stage. They are typically carried out:

- in the case of sudden change in the size of flooring,
- near doors,
- in the presence of elements with loss of continuity,
- for the fractionizing of large continuous surfaces:

25 m² with 6 m maximum individual size, in case of external screeds

50 m² with 8 m maximum individual size, in case of internal screeds (40 m² in case of underfloor heating systems).

Structural joints located in the substrate must be respected.

Measurement of humidity: residual humidity can be measured correctly only with a calcium carbide hygrometer. Normal electric hygrometers are not recommended as they will provide unstable and incorrect values owing to the special hydraulic binders used.

Underfloor heating systems: initial start-up at least 5 days after laying the screed at a supply temperature of between +20 °C and +25 °C, maintain this for at least 3 days then set the maximum project temperature and maintain it for at least another 4 days. Bring the screed back to room temperature and lay (EN 1264-4 point 4.4).

TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

Appearance	Mixture of binders	
Apparent volumetric mass	≈ 0,96 kg/dm ³	UEAtc/CSTB 2435
Shelf life	≈ 12 months in the original packaging in dry environment	
Pack	25 kg bags	
Mixing water	Up to ≈ 12 l / 1 25 kg bag	
Pot life	≥ 3 hrs	
Temperature range for application	from +5 °C to +35 °C	
Foot traffic	≈ 8 hrs	
Waiting time before laying:		
- ceramic tiles	≈ 24 hrs – U.R. < 3 % CM	
- hardwood floors	≈ 5 days - U.R. < 2 % CM	
Coverage	See High -Tech data	

Values taken at +20 °C, 65% R.H. and no ventilation. Data may vary depending on specific conditions at the building site, i.e. temperature, ventilation and absorbency level of the substrate.

PERFORMANCE

HIGH-TECH

Compressive strength (binder) after 28 days	≥ 55 N/mm ²			EN 196/1
Screed performance (DIN 1045-2 B/C sand):	1:8 / 200 kg/m ³	1:6 / 250 kg/m ³	1:5 / 300 kg/m ³	
Resistance:				
- compressive strength after 28 days	≥ 22 N/mm ² (C20)	≥ 34 N/mm ² (C30)	≥ 40,5 N/mm ² (C40)	
- flexural strength after 28 days	≥ 5 N/mm ² (F5)	≥ 6 N/mm ² (F6)	≥ 6,5 N/mm ² (F6)	
Resistances EN 13892-2	C20–F5	C30–F6	C40–F6	
Coverage per cm of thickness	≈ 2 kg/m ²	≈ 2,5 kg/m ²	≈ 3 kg/m ²	
Screed performance (DIN 1045-2 A/B sand):	1:8 / 200 kg/m ³	1:6 / 250 kg/m ³	1:5 / 300 kg/m ³	
Resistance:				
- compressive strength after 28 days	≥ 32 N/mm ² (C30)	≥ 45 N/mm ² (C40)	≥ 55 N/mm ² (C50)	
- flexural strength after 28 days	≥ 6,5 N/mm ² (F6)	≥ 8 N/mm ² (F7)	≥ 9 N/mm ² (F7)	
Resistances EN 13892-2	C30–F6	C40–F7	C50–F7	
Coverage per cm of thickness	≈ 2 kg/m ²	≈ 2,5 kg/m ²	≈ 3 kg/m ²	

Values taken at +20 °C, 65% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

WARNING

- **Product for professional use**
- abide by any standards and national regulations
- use in the recommended dosages
- do not add other binders, additives or water to the mixture during the setting phase
- low temperatures and high relative humidity lengthen the drying time of the screed
- an excessive quantity of water and use of inert materials with a granulometric grading lower than that recommended or non-assorted will reduce strength and the drying time
- before laying hardwood floors and resilient materials, check residual moisture with a calcium carbide hygrometer
- do not moisten the screed and protect it from direct sunlight and currents of air for the first 24 hrs
- if necessary, ask for the safety data sheet
- for any other issues, contact the Kerakoll Worldwide Global Service 01527 578000 - info@kerakoll.co.uk

The Eco and Bio classifications refer to the GreenBuilding Rating® Manual 2012. This information was last updated in August 2018 (ref. GBR Data Report - 08.18); please note that additions and/or amendments may be made over time by KERAKOLL SpA, for the latest version, see www.kerakoll.com. KERAKOLL SpA shall therefore be liable for the validity, accuracy and updating of information provided only when taken directly from its institutional website. The technical data sheet given here is based on our technical and practical knowledge. As it is not possible for us to directly check the conditions in your building yards and the execution of the work, this information represents general indications that do not bind Kerakoll in any way. Therefore, it is advisable to perform a preliminary test to verify the suitability of the product for your purposes.