



# Keracem® Eco

Eco-friendly, hydraulic, normal-setting, rapid-drying mineral binder for high-performance screeds and heat-radiant slabs, ideal for use in GreenBuilding. 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.

## Product Strengths

- For internal and external use
- 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



## Performance GreenBuilding

	 Mineral ≥ 60%	 Recycled Mineral ≥ 50%	 ≤ 250 g/kg	 Low Emission	 Recyclable
					 Can be recycled as inert material

### Keracem® Eco

- Category: Inorganic Mineral Products
- Class: Mineral Binders and Screeds
- Rating: Eco 1

## Areas of use

### Use

Mineral hydraulic binder to create screeds ≥ 20 mm thick that adhere to the substrate and floating screeds ≥ 40 mm thick, in domestic, commercial and industrial applications, also in areas subject to thermal shock and freezing.

Compatible with all cement-based, reactive-epoxy and polyurethane two-component adhesives, dispersed in water and in solvent solutions.

### Before laying:

- homogeneous tiles, ceramic tiles, klinker, cotto, glass and ceramic mosaic, of all types and formats,
- natural stones,
- recomposed materials,
- hardwood floors
- textiles, rubber, PVC, linoleum.

### Do not use

Do not use on deformable substrates, without having previously carried out the necessary checks tensile stress, compression movement and having provided for the necessary fractionizing joints; in adherence on concrete castings which have not yet been 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. It 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.

## Special notes

**Elastic joints:** expansion joints must be provided for, as in the case of traditional cement-based screeds, at thresholds, niches, corners, edges, wall openings and fractionizing joints in the case of large continuous surfaces.

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

**Underfloor heating systems:** initial start-up at least 24 hours 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 (DIN EN 1264-4). After testing the system, protect the screed from damp before laying.

## Technical data compliant with Kerakoll Quality Standard

Appearance	mixture of binders	
Apparent volumetric mass	$\approx 0,96$ kg/dm <sup>3</sup>	UEAtc/CSTB 2435
Shelf life	$\approx 12$ months in the original packaging in dry environment	
Pack	bags 25 kg	
Mixing water	up to $\approx 12$ l / 1 bag 25 kg	
Dosages	see resistances table (EN 13139 – DIN 1045-2 curves A/B and B/C)	
Pot life	$\geq 3$ hrs	
Temperature range for application	from $+5$ °C to $+35$ °C	
Foot traffic	$\approx 8$ hrs	
Waiting time before laying:		
- ceramic tiles *	$\approx 24$ hrs - U.R. $< 3$ CM-%	
- hardwood floors *	$\approx 5$ days - U.R. $< 2$ CM-%	
Coverage	$\approx 2 - 3$ kg/m <sup>2</sup> per cm of thickness	

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

*(\*) The data refers to the thickness of  $\leq 5$  cm.*

## Performance High-Tech

Compressive strength (binder) after 28 days	≥ 55 N/mm <sup>2</sup>	EN 196/1	
Screed performance (DIN 1045-2 B/C sand):			
	1:8 / 200 kg/m <sup>3</sup>	1:6 / 250 kg/m <sup>3</sup>	1:5 / 300 kg/m <sup>3</sup>
Compressive strength after 28 days	≥ 22 N/mm <sup>2</sup> (C20)	≥ 34 N/mm <sup>2</sup> (C30)	≥ 40,5 N/mm <sup>2</sup> (C40)
Flexural strength after 28 days	≥ 5 N/mm <sup>2</sup> (F5)	≥ 6 N/mm <sup>2</sup> (F6)	≥ 6,5 N/mm <sup>2</sup> (F6)
Resistances EN 13892-2	C20-F5	C30-F6	C40-F6
Screed performance (DIN 1045-2 A/B sand):			
	1:8 / 200 kg/m <sup>3</sup>	1:6 / 250 kg/m <sup>3</sup>	1:5 / 300 kg/m <sup>3</sup>
Compressive strength after 28 days	≥ 32 N/mm <sup>2</sup> (C30)	≥ 45 N/mm <sup>2</sup> (C40)	≥ 55 N/mm <sup>2</sup> (C50)
Flexural strength after 28 days	≥ 6,5 N/mm <sup>2</sup> (F6)	≥ 8 N/mm <sup>2</sup> (F7)	≥ 9 N/mm <sup>2</sup> (F7)
Resistances EN 13892-2	C30-F6	C40-F7	C50-F7

*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

- 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 non-assorted granulometric grading will reduce strength and the drying time
- do not moisten the screed and protect it from direct sunlight for the first 24 hrs
- before laying covering materials, check residual humidity with a calcium carbide hygrometer
- if necessary, ask for the safety data sheet
- for any other issues, contact the Kerakoll Worldwide Global Service - [info@kerakoll.co.uk](mailto:info@kerakoll.co.uk)

This information was last updated in September 2010; please note that additions and/or amendments may be made over time by KERAKOLL SpA; for the latest version, see [www.kerakoll.com](http://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.