

Special Eco

Certified, eco-friendly, mineral adhesive for high adhesion, high-performance laying, ideal for use in GreenBuilding. Single-component with low CO₂ emissions and very low volatile organic compound emissions, recyclable as an inert material at the end of its life.

Special Eco has no vertical slip and develops a long adjustability time which means even high thickness ceramic tiles can be laid diagonally, from top to bottom, without having to use spacers.



GREENBUILDING RATING®

Special Eco
 - Category: Inorganic Mineral Products
 - Class: Mineral Adhesives
 - Rating: Eco 4

	 Recycled Mineral ≥ 60%	 CO ₂ ≤ 290 g/kg	 Low Emission Indoor Air Quality	 Recyclable
	 Natural mineral content 69%	 CO ₂ /kg emission 217 g	 Very low VOC emissions	 Can be recycled as inert material

RATING SYSTEM ACCREDITED BY CERTIFICATION BODY SGS

PRODUCT STRENGTHS

- Floors and walls, for internal and external use
- Thicknesses up to 15 mm
- Open and adjustability time ≥ 30 min.
- Suitable for laying single and double-fired ceramic tiles on mineral or cement-based substrates

ECO NOTES

- Formulated with locally-sourced minerals meaning lower greenhouse gas emission during transportation
- Can be recycled as mineral inert material, avoiding waste disposal costs and environmental impact

AREAS OF USE

Use
 laying ceramic tiles on walls and floors. Up to 15 mm thickness

Materials:

- ceramic tiles
- ceramic mosaic

Substrates:

- cement plasters and cement-lime mortar
- cement-based screeds
- mineral screeds Keracem® Eco Pronto
- screeds made using mineral binders such as Keracem® Eco

Flooring and walls, for internal and external use, in domestic, commercial and industrial applications, also in areas subject to freezing.

Do not use
 On gypsum or anhydrite-based substrates without the use of Primer A Eco eco-friendly, water-based surface isolation, plasterboard, on old ceramic floors, marble floor tiles, natural stone, on heat-radiant slabs; on highly flexible substrates; on plastic or resilient materials, metals, wood; on wet substrates or substrates subject to continuous moisture rising; in environments where water is always present.

INSTRUCTIONS FOR USE

Preparation of substrates

In general, cement-based substrates must be free of dust, oil and grease, dry and free from moisture rising, with no loose or imperfectly anchored parts such as residues of cement, lime and paint coatings, which must be completely removed. The substrate must be stable and without cracks, must have already completed the hygrometric shrinkage curing period and must present suitable mechanical resistance levels. Uneven areas must be corrected in advance with suitable finishing products.

Substrates with weak surface consistency: screeds and plasters which present a weak crystalline structure in the initial mm of thickness and which can be easily abraded must be consolidated by means of Keradur Eco, the eco-friendly, water-based depth consolidant, to be applied with one or more coatings and according to the instructions, until a surface has been obtained which is still absorbent but compact.

High-absorbency substrates: on screeds and plasters which are compact but highly absorbent, in warm climates and with direct ventilation, it is advisable to apply in advance Primer A Eco, the eco-friendly, water-based surface isolation, with one or more coatings and according to the instructions, to reduce water absorption and to improve spreadability of the adhesive.

Preparation

Prepare Special Eco in a clean container, first of all pouring in a quantity of water equal to approximately $\frac{3}{4}$ of the amount required. Gradually add Special Eco to the container, mixing the paste from the bottom upwards with a low-rev (≈ 400 /min) helicoidal agitator. Add more water until the desired consistency is obtained. The mixture must be of smooth consistency and without any lumps. For best results, and to mix larger quantities of adhesive, a stirring device with vertical blades and slow rotation is recommended. Specific polymers with high-dispersion properties ensure that Special Eco is immediately ready for use. The amount of water to be added, indicated on the packaging, is an approximate guide. It is possible to obtain mixtures with consistency of variable thixotropy according to the application to be made. Adding extra water does not improve the workability of the product, and may cause shrinkage in the plastic phase of drying and result in less effective final performance with a reduction in compressive strength and adhesion to the substrate.

Application

Special Eco should be applied with a suitable toothed spreader, to be chosen according to the size and characteristics of the rear surface of the tiles. It is best to use the smooth part of the trowel to spread a fine initial layer, pressing down hard so as to obtain maximum adhesion to the substrate and to regulate water absorption, after which the thickness can be adjusted as required by tilting the spreader at an angle. Spread the adhesive over a surface area which will allow for the laying of the surface materials within the indicated open time, and check for suitability at regular intervals. The open time may vary considerably even during the application, depending on various factors such as exposure to sunlight, air currents, absorbency level of the substrate, temperature and relative air humidity. Press any tile sufficiently to ensure complete and even contact with the adhesive itself. In environments subject to heavy traffic and in external locations, use the double-spread technique to ensure 100% application of the product to the rear of the tiles. In general, ceramic tiles do not require preliminary treatment, however these materials should be checked to ensure there are no traces of dust, dirt or surface coatings of any kind that are not properly anchored to the substrate or which may modify the absorbency characteristics of the tiles.

Cleaning

Residual traces of Special Eco can be removed from tools and covered surfaces with water before the product hardens.

SPECIAL NOTES

Special applications: Special Eco's absence of vertical slip allows laying of all types of ceramic tile, starting from the top or diagonally, with considerable precision and speed. The replacement of mixing water with Top Latex Eco, the eco-friendly elastic agent, provides the adhesive with greater capacity of transversal deformation and greater resistance to water and tensile strength without modifying the open and adjustability time. Special with the addition of Top Latex Eco exceeds the performance required by standard EN 12004 class C2 TE. Consult the Kerakoll India Global Service to define use of this product in such applications as: laying on deformable substrates, heat-radiant slabs, smoothed, low absorbency or non-absorbent concrete, large-format paving slabs laid in external applications or in permanently damp environments.

Elastic joints: insert desolidarisation and elastic fractionizing joints every 20/25 m² in internal applications, every 10/15 m² in external applications and every 8 metres in long, narrow applications.

ABSTRACT

Certified, high-performance laying of ceramic tiles with high-adhesion eco-friendly mineral adhesive with no vertical slip, single component, compliant with standard EN 12004 - class C1 TE, GreenBuilding Rating Eco 4, such as Special Eco by Kerakoll Spa. Substrates must be compact, with no loose, flaky material, clean and fully cured, having already completed the curing period for hygrometric shrinkage. A ____ mm toothed spreader must be used for an average coverage of \approx ____ kg/m². Existing joints must be respected, create elastic fractionizing joints every ____ m² of continuous surface. Ceramic tiles must be laid with joint-gap spacers with a width of ____ mm.

TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

Appearance	Grey pre-mixed	
Apparent volumetric mass	≈ 1,34 kg/dm ³	UEAtc/CSTB 2435
Mineralogical nature of inert material	silicate - crystalline carbonate	
Grading	≈ 0 - 500 μm	
Shelf life	≈ 12 months in the original packaging in dry environment	
Pack	Bags 25 kg	
Mixing water	≈ 7,9 l / 1 x 25 kg bag	
Specific weight of the mixture	≈ 1,55 kg/dm ³	UNI 7121
Pot life	≥ 4 hrs	
Temperature range for application	from +5 °C to +35 °C	
Maximum thickness obtainable	≤ 15 mm	
Open time	≥ 30 min.	EN 1346
Adjustability	≥ 30 min.	
Vertical slip	≤ 0,5 mm	EN 1308
Foot traffic	≈ 24 hrs	
Grouting	≈ 8 hrs on walls / ≈ 24 hrs on floors	
Interval before normal use	≈ 7 days	
Coverage *	≈ 1,2 kg/m ² per mm of thickness	

Values taken at +23 °C, 50% 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 and of the materials laid.

(*) Can vary depending on the irregularity of the substrate and the format of the tile.

PERFORMANCE

VOC INDOOR AIR QUALITY (IAQ) - VOLATILE ORGANIC COMPOUND EMISSIONS

Conformity	EC 1-R plus GEV-Emicode	GEV certified 2939/11.01.02
HIGH-TECH		
Shear adhesion on ceramic biscuit after 28 days	≥ 1 N/mm ²	ANSI A-118.1
Tensile adhesion on concrete after 28 days	≥ 1 N/mm ²	EN 1348
Durability test:		
- Adhesion after heat ageing	≥ 0,5 N/mm ²	EN 1348
- adhesion after water immersion	≥ 1 N/mm ²	EN 1348
- adhesion after freeze-thaw cycles	≥ 1 N/mm ²	EN 1348
Working temperature	from -30 °C to +80 °C	
Conformity	C1 TE C1 E CSTB	EN 12004 (156-213)-MC-358
LEED®		
LEED® Points Contribution*	LEED® Points	
MR Credit 4 Recycled materials content	up to 2	GBC Italia
Q1 Credit 4.1 Low-Emitting Materials	up to 1	GBC Italia

Values taken at +23 °C, 50% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

* LEED® is an environmental performance measurement system designed for new and existing commercial, institutional, and residential buildings, based on energy and environmental principles commonly recognized and accepted by the international scientific community. The LEED® building sustainability assessment system is a voluntary system. To calculate the score, consult the rules provided by the Italy LEED® Manual (edition 2009). © 2010, Green Building Council Italia, U.S. Green Building Council, all rights reserved

WARNING

- **Product for professional use**
- abide by any standards and national regulations
- do not use the adhesive to correct substrate irregularities greater than 15 mm
- lay and press tiles onto fresh adhesive, making sure it has not formed a surface skin
- protect against direct rain and freezing for at least 24 hrs
- the temperature, ventilation and absorption of the substrate and covering materials, may vary the adhesive workability and setting times
- use a toothed spreader suitable for the format of the tiles
- use the floating and buttering method for all external laying
- if necessary, ask for the safety data sheet
- for any other issues, contact the Kerakoll India Global Service +91 93 2404 5205 - info@kerakollindia.com

The Eco and Bio classifications refer to the GreenBuilding Rating Manual 2012. This information was last updated in August 2012 (ref. GBR Data Report - 09.12); 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.