H40® Eco Rapid

Certified, eco-friendly, extra-fast setting and hardening mineral adhesive for high-performance laying or overlaying with no vertical slip, ideal for use in GreenBuilding. Single-component with very low volatile organic compound emissions. Recyclable as an inert material at the end of its life.

H40® Eco Rapid quickly returns surfaces to normal use even at low temperatures, guaranteeing high levels of adhesion in both new building and renovation work, whilst maintaining the same extended workability as normal-setting adhesives.

GREENBUILDING RATING®

H40® Eco Rapid
- Category: Inorganic Mineral Products
- Class: Mineral Adhesives with SAS Technology
- Rating: Eco 2

eco2	Regional Mineral ≥ 50 %	Recycled / Regional Mineral ≥ 30 %	CO_2 ≤ 250 g/kg	Low Emission IAQ VOC Indoor Air Quality	Recyclable
				✓	✓
				Very low VOC emissions	Can be recycled as inert material

RATING SYSTEM ACCREDITED BY CERTIFICATION BODY SGS

PRODUCT STRENGTHS

- Ideal for porcelain tiles, ceramics, large formats, low thickness slabs and stable natural stone
- Floors and walls, for internal and external use
- Thicknesses up to 10 mm
- Suitable for underfloor heating systems
- SAS and STC Technology guarantee adhesion for real on-site conditions
- Open time ≥ 30 min.
- Adjustability time ≥ 20 min.

ECO NOTES

- Can be recycled as mineral inert material, avoiding waste disposal costs and environmental impact
- Single-component; avoiding the use of plastic cans reduces CO_2 emissions and the need to dispose of special waste

AREAS OF USE

Use
Laying of all types of ceramic and porcelain tiles, marble and natural stone on floors and walls, and on mineral or cement-based and non-absorbent substrates. Thicknesses of up to 10 mm.

Materials:
- porcelain tiles, low thickness slabs, ceramic tiles, klinker, cotto, glass and ceramic mosaic, of all types and formats
- natural stone, recomposed materials and marble not subject to high deformation or sudden staining due to water absorption

Substrates:
- mineral screeds such as Keracem® Eco Pronto, Keracem® Eco Prontoplus and Rekord® Eco Pronto
- screeds with mineral binders Rekord® Eco and Keracem® Eco
- cement plasters and cement-lime mortar
- cement-based screeds
- prefabricated concrete or fresh concrete castings
- existing wall and floor coverings featuring glazed tiles, cement-based and resin marble floor tiles, and porcelain tiles
- underfloor heating systems
- AquaExpert waterproofing systems
- cementitious waterproofing products
- walls in concrete blocks, cellular concrete and plasterboard

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

Do not use
On gypsum-based plasters and anhydrite screeds without the use of Primer A Eco water-based, eco-friendly, surface insulation; on plastic or resilient materials, metals and wood and on substrates subject to continuous moisture rising.

0013H40® Eco Rapid Code: P317 2011/10 EN

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INSTRUCTIONS FOR USE

Preparation of substrates
In general, cement-based substrates must be free of dust, oil and grease, free from any rising damp, with no loose, flaky or imperfectly anchored parts such as residues of cement, lime and paint coatings, which must be completely removed. The substrate must be stable, without cracks and have already completed the curing period of hygrometric shrinkage. Uneven areas must be corrected with suitable smoothing and finishing products.
Non-absorbent substrates: smooth, non-absorbent substrates which are compact and well-anchored must be prepared by cleaning with products suitable for the type of dirt present. If chemical cleaning cannot be carried out, proceed with mechanical abrasion by means of shot-blasting or scarification of the superficial layer and, if necessary, correct the surface with suitable levelling products.
High-absorption substrates: on screeds which are highly absorbent and have dusty, flaky surfaces, it is advisable to apply one or more coats of Primer A Eco water-based, eco-friendly surface insulation, following the instructions provided, in order to reduce the water absorption and improve spreadability of the adhesive.

Preparation
Prepare H40® Eco Rapid in a clean container, first of all pouring in a quantity of water equal to approximately ¾ of that which will be required. Gradually add H40® Eco Rapid to the container, mixing the paste from the bottom upwards with a low-rev (≈ 400/min) helicoidal agitator. Then add more water until the desired consistency is obtained. The mixture must be smooth 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 H40® Eco Rapid 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 and shear strength and adhesion to the substrate.

Application
H40® Eco Rapid 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 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 of the substrate, temperature and relative humidity of the atmosphere. Press down each tile to allow for complete, uniform contact with the adhesive. In the case of laying in environments subject to heavy traffic, in external applications, on underfloor heating systems or with materials to be smoothed on-site and with formats > 900 cm^2, the double-spread technique must be used, which ensures laying procedures on fresh adhesive, 100% coverage of the rear of the tiles and maximum adhesion. In general, ceramic tiles do not require preliminary treatment, however these materials should be checked to ensure they are free from traces of residual dust or materials not properly anchored to the surface.

Cleaning
Residual traces of H40® Eco Rapid can be removed from tools and covered surfaces with water before the product hardens.

SPECIAL NOTES

Special applications: replacing mixing water with Top Latex Eco water-based, eco-friendly elastic agent enhances the transversal deformation ability of the adhesive. The real necessity for deformability of the laying system must be verified, as use of an excessively deformable adhesive together with highly-rigid substrates and laying materials may cause breakage and early, unexpected yielding of the covering materials when placed under heavy and concentrated strain or loads. To define the percentage of Top Latex Eco to be added, on the basis of the various factors related to the system, consult the Kerakoll Worldwide Global Service.

Elastic joints: insert desolidarisation and elastic fractionizing joints every 20/25 m^2 in internal applications, every 10/15 m^2 in external applications and every 8 metres in long, narrow applications. Structural and string-course joints have to be marked on the external facade.

ABSTRACT

Certified, high-performance laying of ceramic and porcelain tiles, marble and natural stone with eco-friendly, extra-rapid setting and hardening, single-component SAS Shock Absorbing System Technology adhesive for laying and overlaying with no vertical slip, compliant with standard EN 12004 - class C2F TE, GreenBuilding Rating Eco 2, such as H40® Eco Rapid by Kerakoll Spa. The substrate must be compact, free from any loose debris, clean and cured, and the shrinkage stage already completed. For laying, a ____ mm toothed spreader must be used for an average coverage of ≈ ___ kg/m^2. Existing joints must be respected and elastic fractionizing joints created every ____ m^2 of continuous surface. Ceramic tiles must be laid with joint-gap spacers with a width of ____ mm.

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TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

Appearance	Grey pre-mixed	
Apparent volumetric mass	≈ 1,39 kg/dm³	UEAtc/CSTB 2435
Mineralogical nature of inert material	silicate - crystalline	
Grading	≈ 0 - 500 µm	
Shelf life	≈ 6 months in the original packaging in dry environment	
Pack	Bags 25 kg	
Mixing water	≈ 7 ℓ/ 1 x 25 kg bag	
Specific weight of the mixture	≈ 1,48 kg/dm³	UNI 7121
Pot life	≥ 50 mins	
Temperature range for application	from +5 °C to +30 °C	
Maximum thickness obtainable	≤ 10 mm	
Open time	≥ 30 min.	EN 1346
Adjustability	≥ 20 min.	
Vertical slip	≤ 0,5 mm	EN 1308
Foot traffic	≈ 3 hrs	
Grouting	≈ 3 hrs on walls and flooring	
Interval before normal use	≈ 48 hrs	
Coverage *	≈ 2.5 – 4 kg/m²	

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 plus GEV-Emicode	GEV certified 1876/11.01.02
HIGH-TECH		
Shear adhesion (porcelain tiles/porcelain tiles) after 28 days	≥ 2 N/mm²	ANSI A-118.1
Tensile adhesion (concrete/porcelain tiles) after 28 days	≥ 2 N/mm²	EN 1348
Tensile adhesion after 6 hrs	≥ 0,5 N/mm²	EN 1348
Durability test:		
- Adhesion after heat ageing	≥ 2 N/mm²	EN 1348
- adhesion after water immersion	≥ 1 N/mm²	EN 1348
- adhesion after freeze-thaw cycles	≥ 1 N/mm²	EN 1348
- adhesion after straining cycles	≥ 1 N/mm²	SAS Technology
Transversal deformation (mixed with Top Latex Eco)	≥ 5 mm	EN 12002
Working temperature	from -40 °C to +90 °C	
Conformity	C2F TE	EN 12004

Values taken at +23 °C, 50% 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
- do not use the adhesive to correct substrate irregularities greater than 10 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 12 hrs
- the temperature, ventilation and absorption of the substrate and covering materials, may vary the adhesive workability and setting times
- use the right size of toothed spreader for the format of the tile or slab
- do not add water to the adhesive during the setting phase
- 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 Worldwide Global Service - globalservice@kerakoll.com

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