



H40[®] Eco Flex

Eco-friendly, mineral adhesive for high-performance, high shear deformation laying or over-laying all types of tiles, ideal for use in GreenBuilding. Single-component with low CO₂ emissions and very low volatile organic compound emissions, contains recycled raw materials. Recyclable as an inert material at the end of its life.

H40[®] Eco Flex develops full substrate and tile coverage ensuring high resistance to shear stress as well as total safety when tiles of all formats and thicknesses are laid even in the most demanding of applications.



Product Strengths

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



GreenBuilding Rating

	 Mineral ≥ 60%	 Recycled Mineral ≥ 50%	 ≤ 250 g/kg	 Low Emission	 Recyclable
	✓	✓	✓	✓	✓
	Natural mineral content Grey 62% White 62%	Recycled mineral content Grey 34% White 62%	CO ₂ /kg emission Grey 244 g White 244 g	Very low VOC emissions 20 µg/m ³	Can be recycled as inert material

H40[®] Eco Flex

- Category: Inorganic Mineral Products
- Class: Mineral Adhesives with SAS Technology
- Rating: Eco 5

Areas of use

Use

Laying of ceramic tiles, homogeneous tiles, large-size slabs, glass mosaic, dimensionally and colour stable natural stone coverings of all types and formats, on flooring and walls. For domestic, commercial and industrial applications; in areas that are permanently damp and subject to thermal shock and freezing.

Suitable for use on:

- cement-based plasters and lime and cement,
- mineral screeds made using hydraulic binders such as Keracem[®] Eco,
- cement-based levelling and self-levelling products,
- concrete and cellular concrete,
- existing flooring and walls with glazed tiles, cement-based and resin paving, homogeneous tiles,
- underfloor heating systems,
- cement and synthetic resin-based waterproofing products,
- cast asphalt screeds.

Suitable for gypsum-based plasters, plasterboard or anhydrite-based screeds, gypsum or anhydrite-based levelling and self-levelling products, after application of the eco-friendly water-based surface isolation product Primer A Eco.

Do not use

Do not use on plastic or resilient materials, metals, wood and on substrates subject to continuous moisture rising.

Instructions for use

Preparation of substrates

Substrates must comply with BS 5385, parts 1-5, be compact, free from substances that reduce adhesion such as dust, oil, grease and with no loose material. The substrate must be stable, non-deformable, without cracks and have already completed the curing period of hygrometric shrinkage. Uneven sections must be corrected with suitable smoothing and finishing products such as Keralevel® Eco LR or Keratech® Eco R30. Anhydrite screeds must have a damp content of ≤ 0.5 CM-% and be adequately sanded, cleaned using a suitable vacuum cleaner and primed with Primer A Eco. Cement-based screeds must be cured for at least 28 days and have a residual humidity ≤ 2 CM-%. Can be laid on mineral screeds prepared using the eco-friendly binder Keracem® Eco after only 24 hrs (≤ 3 CM-%). When laying on screeds containing heating systems, follow the instructions given in the BS 8204 used to test the heating system itself. When under floor heating has been used the residual humidity of anhydrite screeds must be ≤ 0.3 CM-%, whereas that of cement screeds must be ≤ 2 CM-%. Cast asphalt screeds with well-bonded sand must be cleaned by vacuuming off the excess sand before laying.

Instruction for use

Prepare H40® Eco Flex in a clean container, first of all pouring in a quantity of water equal to approximately $\frac{3}{4}$ of the amount required. Gradually pour the powder into the container, mixing the paste from the bottom upwards with a low-rev (400/min.) electrical mixer. Add more water until the desired consistency is obtained. The mixture must be of smooth consistency and without any lumps. Apply a contact layer of adhesive using the smooth part of the notched trowel. Then apply the adhesive with a suitable, notched trowel for the type and dimensions most appropriate for the format and type of tiles to be used. In environments subject to heavy traffic and in external locations, use the back buttering technique.

Tools

Mixing agitators, toothed spreaders suitable for the formats and types of tiles to be used. Wash tools with water before the product hardens.

Special notes

On highly absorbent screeds and plasters, apply the eco-friendly water-based surface isolation product Primer A Eco to improve the workability of the adhesive, following the instructions provided on the technical sheet. Cast asphalt screeds that are not evenly sanded or in which the sand is not well anchored must be primed with Keragrip Eco before laying.

Technical data compliant with Kerakoll Quality Standard

Appearance	White or grey pre-mixed	
Mineralogical nature of inert material	Silicate - crystalline carbonate	
Grading	$\approx 0 - 800 \mu\text{m}$	
Shelf life	≈ 12 months in the original packaging in dry environment	
Pack	Bags 25 kg	
Mixing water:		
- H40® Eco Flex white	$\approx 7,7 \text{ l} / 1 \text{ bag } 25 \text{ kg}$	
- H40® Eco Flex grey	$\approx 6,5 \text{ l} / 1 \text{ bag } 25 \text{ kg}$	
Specific weight of the mixture:		
- H40® Eco Flex white	$\approx 1,5 \text{ kg/dm}^3$	UNI 7121
- H40® Eco Flex grey	$\approx 1,67 \text{ kg/dm}^3$	UNI 7121
Pot Life	≥ 4 hrs	
Temperature range for application	from $+5 \text{ }^\circ\text{C}$ to $+35 \text{ }^\circ\text{C}$	
Maximum thickness obtainable	$\leq 10 \text{ mm}$	
Open time	$\geq 30 \text{ min.}$	EN 1346
Adjustability	$\geq 30 \text{ min.}$	
Foot traffic	$\approx 24 \text{ hrs}$	
Grouting joints	$\approx 8 \text{ hrs}$ on walls / $\approx 24 \text{ hrs}$ on floors	
Interval before normal use	≈ 7 days	
Coverage H40® Eco Flex grey *	$\approx 1.3 \text{ kg/m}^2$ per mm of thickness	
Coverage H40® Eco Flex white *	$\approx 1.15 \text{ kg/m}^2$ per mm of thickness	
- Toothed spreader 6x6 mm	$\approx 2.65 \text{ kg/m}^2$ grey – $\approx 2,3 \text{ kg/m}^2$ white	
- Toothed spreader 8x8 mm	$\approx 3.5 \text{ kg/m}^2$ grey – $\approx 3 \text{ kg/m}^2$ white	
- Toothed spreader 10x10 mm	$\approx 4.4 \text{ kg/m}^2$ grey – $\approx 3.8 \text{ kg/m}^2$ white	

Values taken at $+23 \text{ }^\circ\text{C}$, 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.

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

Performance High-Tech

Shear adhesion after 28 days:		
- porcelain tile / porcelain tile	≥ 2,5 N/mm ²	ANSI A-118.1
Tensile adhesion after 28 days:		
- concrete/porcelain tiles	≥ 2,5 N/mm ²	EN 1348
Durability test:		
- adhesion after heat ageing	≥ 2,5 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
- adhesion after straining cycles	≥ 1 N/mm ²	SAS Technology
Working temperature	from -40 °C to +90 °C	
Conformity	C2 E	EN 12004
	EC 1 GEV-EMICODE	Cert. GEV 1847/11.01.02
<i>Values taken at +23 °C, 50% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.</i>		

Warning

- Product for professional use

- 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
- expansion joints must be incorporated as defined in BS 5385, parts 1-5
- 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
- if necessary, ask for the safety data sheet
- for any other issues, contact the Kerakoll Worldwide Global Service - 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
 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.