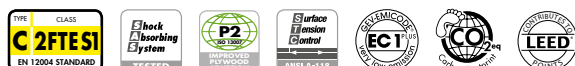


Biogel® Revolution®

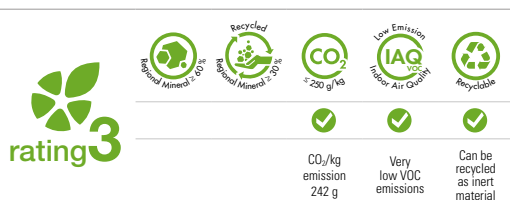
Rapid setting, multi-purpose, flexible structural gel tile adhesive. Longer workability with accelerated adhesion for bonding even in extreme conditions of all types of material, on any substrate for any use. Eco-friendly. Ideal for use in GreenBuilding.



GREENBUILDING RATING®

Biogel® Revolution®

- Category: Inorganic mineral products
- Laying ceramic, porcelain tiles and natural stone



RATING SYSTEM ACCREDITED BY CERTIFICATION BODY SGS

PRODUCT STRENGTHS

- **DOESN'T CAUSE IRRITATION**
The number 1 gel adhesive without a warning label
- **NON THICKENING**
Up to 1 hour of constant workability
- **ACCELERATED ADHESION**
Total safety after only 3 hours
- Thixotropic and fluid
- Long open time
- Shape memory
- Non-slip
- Water resistant
- High and low thickness
- Full wettability
- No shrinkage
- Frost risk reduced
- Absorbs dynamic loads
- Distributes tensile strength
- Increases resistance



ECO NOTES

- Formulated with locally-sourced minerals meaning lower greenhouse gas emission during transportation
- Contains recycled minerals thereby reducing the damage to the environment caused by extracting pure raw materials
- Single-component; avoiding the use of plastic cans reduces CO₂ emissions and the need to dispose of special waste

AREAS OF USE

Use

Substrates Revolution:

- Existing tiles
- Waterproofing products
- Heating systems
- Cement-based screeds
- Concrete substrates
- Plasterboard
- Fibro-cement slabs
- Gypsum and anhydrite
- Asphalt / bitumen screeds
- Brick/blockwork
- Lime and cement-based plasters/renders
- Thermal insulation panelling systems
- Insulating panels
- Impact noise insulation sheets
- Timber - metal - pvc

Materials Revolution:

- Porcelain tiles
- Laminated stoneware
- Low thickness slabs
- Ceramic tiles
- Large formats
- 300x150 cm slabs
- Marble - natural stone
- Recomposed materials
- Glass mosaics
- Glass tiles
- Thermal and acoustic insulation
- Terracotta - klinker

Uses Revolution:

- Adhesive and finishing
- Floors and walls
- For internal use - external
- Overlaying
- Terraces and balconies
- Façades
- Swimming pools and fountains
- Saunas and spa
- Domestic
- Commercial
- Industrial
- Street furniture

INSTRUCTIONS FOR USE

Preparation of the substrate

Substrates must comply with BS 5385, parts 1-5, be level, cured, undamaged, compact, rigid, resistant, dry and free from any debonding agents and from damp rising. It is good practice to dampen highly absorbent concrete substrates or apply a coat of Primer A Eco. Anhydrite screeds must have a damp content of $\leq 0.5\%$ CM and be adequately sanded, cleaned using a suitable vacuum cleaner and primed with Primer A Eco.

Preparation of wood substrates

Make sure that the floor is able to bear the added weight of the tiles plus the static / dynamic service load indicated in the project. The wooden substrate must be rigid and stable and within normal levels of humidity; it may be necessary to strengthen the structure by inserting reinforcement noggings between the beams. Select appropriate plywood panels of suitable thickness before laying the tiles (as indicated in BS5385-3). The plywood panels must be screwed onto the beams with flathead screws placed every 300 mm from the centre. The screws must be of a suitable length to ensure they fasten to the substrate, taking care not to damage any installations. All joints between panels must be supported by beams or reinforcements. The surface of the panel must be cleaned before laying to remove any dust and debris.

If the surface of the panel has been treated in advance with fireproofing or waterproofing materials, check that the panel is certified by the manufacturer for laying of tiles. a test should also be carried out in advance to ensure that the treatment in question does not restrict the adhesion of the adhesive itself. If in doubt, please contact the technical department before laying.

Adhesive preparation

Mixing water (EN 12004-26)	Mixing water on-site	On walls, for high and low thickness
-Grey $\approx 20 - 22\%$ by weight	For low thickness laying and full wettability:	laying:
-White $\approx 28\% - 30\%$ by weight	-Grey $\approx 4.4 \text{ l} / 1 \text{ bag}$	-Grey $\approx 4 \text{ l} / 1 \text{ bag}$
	-White $\approx 5.9 \text{ l} / 1 \text{ bag}$	-White $\approx 5.5 \text{ l} / 1 \text{ bag}$

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.

Application

To guarantee structural adhesion it is necessary to apply a layer of adhesive sufficient to cover the entire back of the coating material. Large, rectangular sizes with sides $> 60 \text{ cm}$ and low thickness sheets may require adhesive to be applied directly to the back of the material.

Check samples to make sure the adhesive has been transferred to the back of the material.

Create elastic expansion joints:

- $\approx 10 \text{ m}^2$ in external applications ($3.5 \times 3.5 \text{ m}$)
- $\approx 40 \text{ m}^2$ in internal applications ($8 \times 5 \text{ m}$) with underfloor heating
- $\approx 100 \text{ m}^2$ in internal applications ($10 \times 10 \text{ m}$) without underfloor heating
- every 8 metres in long, narrow applications.

Respect all structural, fractionizing and perimeter joints present in the substrates.

SPECIAL NOTES

Pre-treatment of special substrates

Metal (internal use only): Keragrip Eco

Asphalt/bitumen screed (internal use only): Keragrip Eco

Gypsum and anhydrite (internal use only): Primer A Eco

PVC (internal use only): Keragrip Eco

As treating special substrates is difficult to classify in a standard manner, it is always advisable to contact Kerakoll Global Service and/or request a site inspection by a GreenBuilding Consultant. In any case it is essential to carefully read the technical data sheet on how to use the indicated primers properly.

Materials and special substrates

Marble-natural stones and Recomposed materials: marble and natural stone in general may have characteristics that vary even with reference to materials of the same chemical and physical nature. For this reason it is essential you consult Kerakoll Global Service to request specific indications or to carry out a test on a sample of the material.

In the absence of specific indications from the manufacturer, natural stone slabs with reinforcement layers, in the form of resin coating, polymer mesh, matting, etc. or treatments (for example damp courses, etc.) applied on the laying surface must be tested in advance to ensure they are compatible with the adhesive.

Check for the presence of any really consistent traces of rock dust created during cutting, and remove them if found.

Waterproofing products: adherent and floating polymer sheets, liquid bitumen and tar-based sheets or membranes require application of a laying screed on top. On organic-based waterproofing products (such as RM according to EN 14891).

Special applications

Façades: the substrate should guarantee a cohesive tensile strength of $\geq 1,0 \text{ N/mm}^2$.

The need to call for suitable mechanical safety anchoring must be evaluated by the designer for coverings with $> 30 \text{ cm}$ side.

For coverings with $> 60 \text{ cm}$, add to the mixing water a percentage of Top Latex Eco to assess the function of the thermo-dynamic strain provided by the structure.

Always apply a layer of adhesive directly on the back of the material.

TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

Shelf life	≈ 12 months in the original packaging in dry environment.	
	Protect from humidity	
Pack	20 kg	
Adhesive thickness	from 2 to 15 mm	
Temperature of the air, substrates and materials	from +5 °C to +35 °C	
Pot life at +23 °C		
- Grey	≈ 1 hr	
- White	≈ 1 hr	
Open time at +23 °C (BIII tile):		
- Grey	≥ 45 min.	EN 1346
- White	≥ 45 min.	EN 1346
Correction time White and Grey (BIII tile):		
+23 °C	≥ 6 min.	
Time required until fully frost-proof (BIa tile)		
- from +5 °C to -5 °C	≈ 3 hrs	
Foot traffic/grouting of joints at +23 °C (BIa tile):		
- Grey	≈ 3 hrs	
- White	≈ 3 hrs	
Foot traffic/grouting of joints at +5 °C (BIa tile):		
- Grey	≈ 7 hrs	
- White	≈ 7 hrs	
Grouting in walls at +23 °C (BIa tile)		
- Grey	≈ 2 hrs	
- White	≈ 2 hrs	
Ready for use at +23 °C / +5 °C (BIa tile)		
- light foot traffic	≈ 6 – 16 hrs	
- heavy traffic	≈ 24 – 28 hrs	
- swimming pools (+23 °C)	≈ 7 days	
Coverage per mm thickness:		
- Grey (mixing ratio 23%)	≈ 1.3 kg/m ²	
- White (mixing ratio 28,5%)	≈ 1.2 kg/m ²	

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.

PERFORMANCE

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

Conformity	EC 1 plus GEV-Emicode	GEV Certified 8562/11.01.02
HIGH-TECH		
Shear adhesion (porcelain tiles/porcelain tiles) after 28 days	≥ 2 N/mm ²	ANSI A-118.4
Tensile adhesion after 6 hrs	≥ 0.5 N/mm ²	EN 1348
Tensile adhesion (concrete/porcelain tiles) after 28 days	≥ 2.5 N/mm ²	EN 1348
Durability test:		
- adhesion after heat ageing	≥ 1 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
- concentrated load on plywood/porcelain tiles after 28 days	≥ 15 kN	Timber Tested
- flexural strength of the plywood/porcelain tiles system after 28 days	≥ 35 N/mm ²	Timber Tested
- adhesion after strain cycles on plywood	≥ 1 N/mm ²	SAS Timber Tested
Transversal deformation	≥ 2,5 mm	EN 12002
Vertical slip	≤ 0.5 mm	EN 1308
Working temperature	from -40 °C to +90 °C	

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 15 mm
- protect from direct rainfall for at least 6 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
- guarantee a full-bed in all external laying operations
- if necessary, ask for the safety data sheet
- for any other issues, contact the Kerakoll Worldwide Global Service 01772 456 831 - info@kerakoll.co.uk

The Rating classifications refer to the GreenBuilding Rating® Manual 2012. This information was last updated in January 2020 (ref. GBR Data Report - 02.20); 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.