

# Biogel® Revolution

Multi-purpose flexible structural gel 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**

- Shape memory
- High and low thickness
- Full wettability
- no shrinkage
- Frost risk reduced
- Absorbs dynamic loads

**ECO NOTES**

- Formulated with locally-sourced minerals meaning lower greenhouse gas emission during transportation
- The white version contains recycled minerals thereby reducing the damage to the environment caused by extracting primary raw materials
- Single-component; avoiding the use of plastic cans reduces CO<sub>2</sub> 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
- Plasterboard
- Fibro-cement slabs
- Gypsum and anhydrite\*
- Cellular concrete\*
- Brick
- 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 size
- 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

\* after applying Primer A Eco  
 \*\* after applying Keragrip Eco

\* ÉMISSION DANS L'AIR INTÉRIEUR Information sur le niveau d'émission de substances volatiles dans l'air intérieur, présentant un risque de toxicité par inhalation, sur une échelle de classe allant de A+ (très faibles émissions) à C (fortes émissions).

## INSTRUCTIONS FOR USE

### Preparation of the substrate

All substrates must 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.

### Adhesive preparation

Mixing water (EN 12004-2)

- Grey  $\approx$  21.5% – 24.5% weight ( $\approx$  5.4 – 6.1 l/bag)
- White Shock  $\approx$  27.5% – 30.5% weight ( $\approx$  6.9 – 7.6 l/bag)

Mix Biogel® Revolution using clean water until a smooth and lump-free mixture is obtained; leave the mixture to stand for a few minutes and mix again.

### 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 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 m<sup>2</sup> in external applications,
- $\approx$  25 m<sup>2</sup> in internal applications,
- 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

Timber (internal use only) thickness  $\geq$  25 mm: Keragrip Eco

Metal (internal use only): Keragrip Eco

Asphalt screed (internal use only): Primer A 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:** materials that are subject to deformation or staining due to water absorption require a quick-setting or reactive adhesive. 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.

### Special applications

**Façades:** the substrate should guarantee a cohesive tensile strength of  $\geq$  1.0 N/mm<sup>2</sup>.

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

For coverings with > 60 cm side, add to the mixing water, as indicated in the technical data sheet, a percentage of Top Latex Eco to be determined according to the thermo-dynamic strain expected from the structure.

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

## TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

Shelf life	$\approx$ 12 months from production in the original sealed packaging, protect from humidity
Pack	25 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	= 40 min.
- White Shock	= 30 min.

## TECHNICAL DATA COMPLIANT WITH KERAKOLL QUALITY STANDARD

Correction time at +23 °C:	
- Grey	≥ 6 min.
- White Shock	≥ 6 min.
Time required until fully frost-proof:	
- from +5 °C to -5 °C	≈ 3 hrs
Foot traffic/grouting of joints at +23 °C:	
- Grey	≈ 3 hrs
- White Shock	≈ 3 hrs
Foot traffic/grouting of joints at +5 °C:	
- Grey	≈ 8 hrs
- White Shock	≈ 8 hrs
Grouting in walls at +23 °C:	
- Grey	≈ 2 hrs
- White Shock	≈ 2 hrs
Ready for use at +23 °C / +5 °C (Bla 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 25%)	≈ 1.25 kg/m <sup>2</sup>
- White Shock (mixing ratio 29%)	≈ 1.25 kg/m <sup>2</sup>
<i>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.</i>	

## PERFORMANCE

VOC INDOOR AIR QUALITY (IAQ) - VOLATILE ORGANIC COMPOUND EMISSIONS		
Conformity	EC 1 plus GEV-Emicode	GEV Certified 8562/11.01.02
<b>HIGH-TECH</b>		
Shear adhesion (porcelain tiles/porcelain tiles) after 28 days	≥ 2 N/mm <sup>2</sup>	ANSI A-118.4
Tensile adhesion after 6 hrs	≥ 0.5 N/mm <sup>2</sup>	EN 12004-2
Tensile adhesion (concrete/porcelain tiles) after 28 days	≥ 2.5 N/mm <sup>2</sup>	EN 12004-2
Durability test:		
- adhesion after heat ageing	≥ 1 N/mm <sup>2</sup>	EN 12004-2
- adhesion after water immersion	≥ 1 N/mm <sup>2</sup>	EN 12004-2
- adhesion after freeze-thaw cycles	≥ 1 N/mm <sup>2</sup>	EN 12004-2
- adhesion after straining cycles	≥ 1 N/mm <sup>2</sup>	SAS Technology
Transversal deformation	≥ 2.5 mm	EN 12004-2
Vertical slip	≤ 0.5 mm	EN 12004-2
Working temperature	from -40 °C to +90 °C	
Conformity:	C2FTES1	EN 12004
Grey	C2 S1 EF	CSTB 2900-213 MC - 549
White	C2 S1 EF	CSTB 3139-156 MC - 549
<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**
- 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 +39 0536 811 516 - [globalservice@kerakoll.com](mailto:globalservice@kerakoll.com)

The Rating classifications refer to the GreenBuilding Rating® Manual 2013. This information was last updated in October 2021 (ref. GBR Data Report - 11.21); 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.



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