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.

Grey

eco3

DOESN'T CAUSE IRRITATION
EU CLP Regulation

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

FEATURES AND ADVANTAGES

THIXOTROPIC AND FLUID	WATER RESISTANT	FROST RISK REDUCED
LONG OPEN TIME	HIGH AND LOW THICKNESS	ABSORBS DYNAMIC LOADS
SHAPE MEMORY	FULL WETTABILITY	DISTRIBUTES TENSILE STRENGTH
NON-SLIP	NO SHRINKAGE	INCREASES THE PERFORMANCE

GREENBUILDING RATING®

- Category: Inorganic mineral products
- Laying ceramic tiles and natural stone
- Rating: Eco 3

eco3	Regional Mineral ≥ 80 %	Recycled / Regional Mineral ≥ 30 %	CO_2 ≤ 250 g/kg	Low Emission IAQ VOC Indoor Air Quality	Recyclable
			✓	✓	✓
			CO_2/kg emission 217 g	Very low VOC emissions	Can be recycled as inert material

RATING SYSTEM ACCREDITED BY CERTIFICATION BODY SGS

- The GreenBuilding Rating® is a dependable and reliable evaluation method for measuring and improving the environmental performance of building materials.

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 CO_2 emissions and the need to dispose of special waste

COMPLIANCE AND CERTIFICATIONS

CE 1599 0407

KERAKOLL S.p.A. Via dell'Artigianato, 9
41049 Sassuolo - MOa - Italy - www.kerakoll.com

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DoP n° 0396
EN 12004:2007+A1:2012
BIOGEL REVOLUTION
Improved fast setting cementitious adhesive for all internal and external tiling

Reaction to fire	A2-s1,d0
Bond strength, as:	
early tensile adhesion strength	≥ 0,5 N/mm²
initial tensile adhesion strength	≥ 1,0 N/mm²
Durability, for:	
tensile adhesion strength after heat ageing	≥ 1,0 N/mm²
tensile adhesion strength after water immersion	≥ 1,0 N/mm²
tensile adhesion strength after freeze/thaw cycles	≥ 1,0 N/mm²
Release of dangerous substances	See SDS

GEL® TECHNOLOGY

TYPE C CLASS 2FTES1 EN 12004 STANDARD

Shock Absorbing System TESTED

P2 ISO 13007 IMPROVED PLYWOOD ADHESION

Surface Tension Control ANSI A-118.1

GEV-EMICODE EC 1 PLUS very low emission

CO_2eq Carbon Footprint

CONTRIBUTES TO LEED POINTS

Biogel® Revolution Code: P1066 2018/05 UK

The combination of substrates, materials and uses indicated may not always be possible to achieve. It is essential that you consult the individual product technical sheets to check their suitability. Anything that is not foreseen in this list must be requested directly from Kerakoll Global Service.

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 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
FACADES
SWIMMING POOLS AND FOUNTAINS
SAUNAS AND SPA
DOMESTIC
COMMERCIAL
INDUSTRIAL
STREET FURNITURE

The indications for use refer to the general principles of application to a high professional standard. Abide by any standards and national regulations.

- **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 ≤ 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 1348) ≈ 23% – 25% by weight
Mixing water on-site
For low thickness laying and full wettability: ≈ 6,2 ℓ / 1 bag
On walls, for high and low thickness laying: ≈ 5 ℓ / 1 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 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:
- ≈ 10 m^2 in external applications,
- ≈ 25 m^2 in internal applications,
- every 8 metres in long, narrow applications.

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

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SAFE LAYING ON SITE

The SAFE LAYING ON SITE method has the aim of testing adhesives both using relevant standards and in some of the most extreme conditions that can be met on site, using rigorous scientific methods and the latest technology available with Kerakoll GreenLab.

WORKABILITY

Pack 25 kg

Shelf life ≈ 12 months in the original packaging
Protect from humidity

Adhesive thickness from 2 to 15 mm

Coverage per mm thickness:
Grey (mixing ratio 25%) ≈ 1,25 kg/m²

Temperature of the air, substrates and materials
from +5 °C to +35 °C

Pot life at +23 °C
Grey ≈ 1 hr

Open time at +23 °C (BIII tile):
Grey ≥ 45 min. EN 1346

Open time at +35 °C (BIII tile):
Grey ≥ 15 min. EN 1346

Correction time (BIII tile)
+23 °C ≥ 6 min.
+35 °C ≥ 5 min.

Time required until fully frost-proof (Bla tile)
from +5 °C to -5 °C ≈ 3 hrs

Foot traffic/grouting of joints at +23 °C (Bla tile)
Grey ≈ 3 hrs

Foot traffic/grouting of joints at +5 °C (Bla tile)
Grey ≈ 8 hrs

Grouting in walls at +23 °C (Bla tile)
Grey ≈ 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

SPECIAL NOTES

- **PRE-TREATMENT OF SPECIAL SUBSTRATES**

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
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**

FACADES
The substrate should guarantee a cohesive tensile strength of ≥ 1,0 N/mm².
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, 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 (per India tile/stone).

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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/mm²	ANSI A-118.4
Tensile adhesion after 6 hrs	≥ 0,5 N/mm²	EN 1348
Tensile adhesion (concrete/porcelain tiles) after 28 days	≥ 2,5 N/mm²	EN 1348
Durability test:		
- adhesion after heat ageing	≥ 1 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
- 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/mm²	Timber Tested
- adhesion after strain cycles on plywood	≥ 1 N/mm²	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.

GENERAL NOTICES

- **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 01527 578000 - info@kerakoll.co.uk

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KERAKOLL
The GreenBuilding Company

KERAKOLL UK Ltd.
Unit 4, The Croft, Buntsford Gate Business Park
Bromsgrove, Worcestershire B60 4JE, United Kingdom
Tel +44 01527 578000 - Fax +44 01527 578170
info@kerakoll.co.uk - www.kerakoll.com

Member Member MEMBER PLGBC UK GREEN BUILDING COUNCIL Member