BIOGEL® EXTREME

White

eco2®

HIGHLY DEFORMABLE AND WORKABLE, HYBRID GEL ADHESIVE, BONDS EVERYTHING AND IS TESTED UNDER THE MOST EXTREME WORKING CONDITIONS. ECO-FRIENDLY. IDEAL FOR USE IN GREENBUILDING.

VERY FAST BONDING
Adhesive strength 5 times superior to a class C2 (4.5 N/mm2) cement-based adhesive after 24 hours

STRESS RESISTANT
10 times more deformable than a class S2 (> 50 mm) cement-based adhesive

EASY TO SPREAD
5 times less viscous than a (35 Pa*s) polyurethane adhesive, transforms into a smooth gel like a cement-based adhesive

FEATURES AND ADVANTAGES

VERY FAST BONDING	HIGH AND LOW THICKNESS	DISTRIBUTES TENSILE STRENGTH
LONG OPEN TIME	MAXIMUM DEFORMABILITY	INCREASES THE PERFORMANCE
SHAPE MEMORY	FULL WETTABILITY	TRANSFERS THE FORCES
WATER RESISTANT	NO SHRINKAGE	ABSORBS DYNAMIC LOADS
EASY TO SPREAD	STRUCTURAL ADHESION	ELIMINATES THE RISK OF FROST

GREENBUILDING RATING®

- Category: Organic Mineral products
- Laying ceramic tiles and natural stone
- Rating: Eco 2

eco2®	Regional Mineral ≥ 30%	Low Emission IAQ VOC Indoor Air Quality	SLV REDUCED Solvent ≤ 5 g/kg	Low Ecological Impact	Health Care
			✓		✓
			Solvent-free		Non-toxic and non-hazardous

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

- Improved on-site safety guaranteed as it is non-toxic and non-hazardous
- Made from solvent-free organic raw materials

COMPLIANCE AND CERTIFICATIONS

CE 1599 0407	**KERAKOLL S.p.A.** Via dell'Artigianato, 9 41049 Sassuolo - MO - Italy - www.kerakoll.com
16 DoP n° 0358 EN 12004:2007+A1:2012 BIOGEL EXTREME Improved reaction resin adhesive for all internal and external tiling	
Reaction to fire	Class B-s1,d0
Bond strength, as: initial shear adhesion strength	 ≥ 2,0 N/mm²
Durability, for: shear adhesion strength after thermal shock shear adhesion strength after water immersion	 ≥ 2,0 N/mm² ≥ 2,0 N/mm²
Release of dangerous substances	See SDS

CO_{2eq} Carbon Footprint **7,98** kg CO_2 eq/m²

ISO/TS 14067 COMPLIANT

HYBRID GEL® TECHNOLOGY

TYPE R CLASS 2 ISO 13007-1 STANDARD

Shock Absorbing System TESTED

Surface Tension Control ANSI A-118.1

CONTRIBUTES TO LEED POINTS

Biogel® Extreme Code: P675 2017/12 EN

AREAS OF USE

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 EXTREME

- EXISTING TILES
- HEATING SYSTEMS
- CEMENT-BASED SCREEDS
- ASPHALT SCREEDS
- CONCRETE
- PLASTERBOARD
- FIBRO-CEMENT SLABS
- GYPSUM AND ANHYDRITE
- CELLULAR CONCRETE
- BRICK
- LIME AND CEMENT-BASED PLASTERS/RENDERS
- THERMAL INSULATION PANELLING SYSTEMS
- IMPACT NOISE INSULATION SHEETS
- CRACKED SCREEDS
- UNCURED DAMP SCREEDS
- WOOD – METAL – SHEET METAL
- RUBBER FLOORS – PVC
- HIGH-THICKNESS COATINGS IN EPOXY AND POLYURETHANE RESIN

MATERIALS EXTREME

- PORCELAIN TILES
- LAMINATED STONEWARE
- PORCELAIN TILE WITH RESIN BACK
- VERY LARGE FORMATS
- LOW THICKNESS SLABS
- CERAMIC TILES
- MARBLE - NATURAL STONE
- MARBLE WITH RESIN BACK
- RECOMPOSED MATERIALS
- CEMENT-BASED RECOMPOSED MATERIALS
- GLASS MOSAICS
- GLASS TILES
- THERMAL AND ACOUSTIC INSULATION
- TERRACOTTA - KLINKER
- METAL TILES

USES EXTREME

- ADHESIVE AND FINISHING
- INTERIOR WATERPROOFING PRODUCT
- FLOORS AND WALLS
- FOR INTERNAL USE - EXTERNAL
- OVERLAYING
- TERRACES AND BALCONIES
- FACADES
- SWIMMING POOLS AND FOUNTAINS
- SAUNAS AND SPA
- DOMESTIC
- COMMERCIAL
- INDUSTRIAL
- STREET FURNITURE

PREPARATION AND USE

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

All the substrates must be flat, compact, free from with no loose flaky parts, resistant, free from any debonding agents, dust and moisture rising.
It is best to apply a coat of diluted Primer A Eco on very absorbent cement-based substrates.

• ADHESIVE PREPARATION

Single Pack: Part B is found inside the pack.
Respect the preset ratio of 8.6 : 1.4.
Remix part B into the bucket containing part A, being careful to mix the two parts uniformly until a smooth, even coloured mixture is obtained.
Packs of Biogel® Extreme must be stored at a temperature of ≈ +20 °C for at least 2/3 days prior to use.

• Application

Biogel® Extreme can be applied with a suitable toothed spreader, to be chosen according to the size and type of the tile. Using the smooth part of the spreader, apply a fine layer of product, pressing down onto the substrate in order to ensure maximum adhesion. Press down each tile to allow for maximum coverage of the surface.
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.

• Cleaning

Clean the tools and any residues of Biogel® Extreme from the coated surfaces using water while the adhesive is still fresh. Once hardened, the adhesive can only be removed mechanically or using Fuga-Shock Eco cleaner.

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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 some of the most modern technology currently available in the Kerakoll® GreenLab.

WORKABILITY

Pack	monopack 10 kg (8,6 +1,4 kg)
Mixing ratio	Part A : Part B = 8.6 : 1.4
Shelf life	≈ 24 months in original packaging Protect from frost

Adhesive thickness	from 2 to 15 mm
Coverage per mm of thickness	≈ 1,45 kg/m²
Temperature of the air, substrates and materials	from +5 °C to +35 °C

Pot life:

+23 °C	≈ 110 min.
+35 °C	≈ 80 min.

Open time (BIII tile)

+23 °C	≈ 180 min.
+35 °C	≈ 90 min.

Correction time (BIII tile)

+23 °C	≥ 120 min.
+35 °C	≥ 60 min.

Foot traffic/grouting of joints (BIa tile)

+23 °C	≈ 4 hrs
+5 °C	≈ 15 hrs

Ready for use at +23 °C / +5 °C (BIa tile)

- light foot traffic	≈ 6 – 20 hrs
- heavy traffic	≈ 12 – 24 hrs
- swimming pools (+23 °C)	≈ 3 days

- **PRE-TREATMENT OF SPECIAL SUBSTRATES**

Timber thickness ≥ 25 mm: Keragrip Eco Pulep
Metal and sheet metal: Keragrip Eco Pulep
Gypsum and anhydrite (internal use only): SIc® Eco EP21
PVC and rubber: Keragrip Eco Pulep
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
The materials subjected to high deformation or staining due to water absorption need a reactive adhesive such as Biogel® Extreme. 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.
Check for the presence of any really consistent traces of rock dust created during cutting, and remove them if found.
Special substrates: adherent and floating polymer sheets, liquid bitumen and tar-based sheets or membranes require application of a laying screed on top.

- **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.
Always apply a layer of adhesive directly on the back of the material.
In insulation panelling systems, carry out a reinforced plaster/render cycle, mechanically fixed to the substrate, with a minimum thickness of 10 mm.

SPECIAL NOTES

WATERPROOFING FOR INTERIORS
Waterproof the fractionizing, expansion and desolidarisation joints in the substrates using Aquastop 120 anchored using Biogel® Extreme adhesive; create special pieces for external angles, internal angles and connections to drains and installations by cutting the Aquastop 120 tape.
Apply the first coat with a smooth spreader in a thickness of about 1-2 mm, pressing down to ensure maximum adhesion to the substrate. Once the product has hardened, and after removing any surface condensation, apply a second coat of Biogel® Extreme, creating a continuous even layer, about 2 – 3 mm thick, covering the substrate completely. The subsequent laying of the covering should be carried out with Biogel® Extreme at least 12 hours after the application of the last coat. when working in low temperatures and with high humidity, the waiting time before laying will be longer.
The waterproofing on roofs of residential spaces must allow for the presence of a vapour barrier and insulation layers.

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PERFORMANCE

HIGH-TECH		
Shear adhesion after 7 days	≥ 7,5 N/mm²	EN 12003
Shear adhesion after water immersion	≥ 5 N/mm²	EN 12003
Shear adhesion after thermal shock	≥ 5,5 N/mm²	EN 12003
Shear adhesion after immersion in chlorine water	≥ 3 N/mm²	EN 12003
ADHESION TEST ACCORDING TO EN 12004 FOR CLASS C (CEMENT BASED) ADHESIVES		
Tensile adhesion (concrete/porcelain tile):		
- after 6 hrs	≥ 2,4 N/mm²	EN 1348
- after 28 days	≥ 4,5 N/mm²	EN 1348
Durability test:		
- Adhesion after heat ageing	≥ 4 N/mm²	EN 1348
- adhesion after water immersion	≥ 2,5 N/mm²	EN 1348
- adhesion after freeze-thaw cycles	≥ 2 N/mm²	EN 1348
- adhesion after straining cycles	≥ 2 N/mm²	SAS Technology
Transversal deformation	≥ 50 mm	EN 12002
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 against direct rain 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
- for laying on cement-polymer waterproofing coverings, check the suitability on the producer's technical data sheet
- do not use in contact with polystyrene (Styrofoam, EPS, XPS, etc...), even if smoothed
- 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

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Kerakoll Quality System ISO 9001 CERTIFIED IT10/0327
Kerakoll Quality System ISO 14001 CERTIFIED IT242729/UK
Kerakoll Quality System BS 18001 CERTIFIED IT255412/UK

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UK GREEN BUILDING COUNCIL Member

The Eco and Bio classifications refer to the GreenBuilding Rating® Manual 2012. This information was last updated in September 2017 (ref. GBR Data Report - 10.17); please note that additions and/or amendments to this information 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.