
PowerGel® Pro

Technical Specifications



High-strength, permanently elastic, crack-resistant epoxy gel (2nd Gen) based on Fluidotixo® - C5 technology, designed to securely bond tiles, porcelain stoneware, extra-large slabs, marble and natural stone – including unstable varieties – of any size to any substrate.

Product description

High-strength, permanently elastic, crack-resistant epoxy gel (2nd generation) that prevents the formation of cracks when laying tiles, porcelain stoneware, large-format slabs and even unstable natural stone. Designed for the monolithic bonding of any material to any substrate, ensuring the highest level of application safety.

Thanks to state-of-the-art features, the mixture is extremely creamy, free-flowing and thixotropic, retaining its shape and thickness on both floors and walls.

PowerGel® Pro is engineered for the installation of large-format tiles and slabs of any type and size in high-traffic areas, even on cracked substrates (up to 2 mm) and those that are not perfectly dry (residual moisture <5%). The epoxy gel helps to dissipate and neutralise substrate movements and expansion of the cladding, and distributes heavy loads evenly without causing stress.

The innovative gelation-based bonding technology ensures stable and secure installation directly onto single- or two-component polymer and polymer-cement membranes without triggering corrosive chemical reactions that could compromise the integrity of the adhesive/waterproofing system.

It ensures a monolithic structural bond even for applications subject to high stresses, such as balconies, terraces, swimming pools and façades, allowing direct installation on difficult substrates such as timber, metal, PVC and fibreglass, where the use of cementitious adhesives is not suitable.

Classified as R2T – EN 12004

Proprietary gel formula

Part A

Blend of epoxy resins of varying molecular weights under our own licence

A blend of micro-granules of pure white Carrara marble and quartz sand

Fine particle size – range 60–250 µm

A blend of innovative polymeric thinners with a low elastic modulus

Rheological stabilisers and smart flow enhancers

Part B

Latest-generation non-corrosive polymeric linker

PowerGel® Pro embodies Litokol's ongoing scientific progress.

It is designed using innovative raw materials to improve the installation experience, enhance safety and reduce environmental impact.

Engineered with

Superior Tension Absorption (TSA)

Crack Prevention® technology

Zherorisk® EpoxyGel technology

Mix classification

Mix Class	Level of smoothness	Lightness index
C1 – Thick / Paste-like	Requires more force to apply	Standard
C2 – Medium Consistency	Offers good workability, but runs	Standard
C3 - Fluidotixo	Slippery and thixotropic	Light
C4 - Fluidotixo Dinamico	Highly flowable and thixotropic	Light
C5 - Fluidotixo Anti-Fatigue	Ultra-smooth and thixotropic	Ultra Light

Gel Performance

Structural gelation: a new bonding technology

PowerGel® Pro heralds a new era in flexible bonding thanks to the concept of structural gelation. This process transforms the adhesive into a dynamic system capable of adapting during installation, stabilising during polymerisation and maintaining high mechanical performance over time. The three-dimensional network that forms during gelation bonds the substrate and the back of the tile, creating an active and flexible ITZ zone that is resistant to cracking, cyclic stress, expansion and moisture.

Elastic, crack-resistant bonding

PowerGel® Pro is applied as a bonded system with exceptional tensile and shear bond strength; it is the ideal technical solution for surfaces prone to deformation and extra-large ceramic formats: perfect for large-format tiles and slabs of any type and size in high-traffic areas and on cracked substrates (up to 2 mm).

It ensures structural gelation even on difficult, non-absorbent substrates such as existing tiles, timber, metal, PVC and fibreglass.

Thanks to Crack Prevention® and Superior Tension Absorption (TSA) technologies, it is possible to achieve an elastic, crack-resistant bond that develops as the gel cures and is maintained over time, increasing the durability of the ITZ by protecting it from tensile, compressive and shear stresses.

Engineered for the installation of marble and natural stone that is sensitive to moisture; cement- and water-free, it prevents staining and warping.

It ensures excellent adhesion even on substrates with residual moisture of up

to 5% or which are not fully cured.

Smart gelation for a new-generation ITZ interface

The gelation process of PowerGel® Pro represents a decisive technological advancement over traditional systems. During curing, the gel develops a three-dimensionally reactive micro-network that allows for nanometric adaptation to micro-irregularities in the substrate, optimising the interface-adhesive transition zone (ITZ).

This intelligent behaviour enables cohesive and widespread adhesion, improving mechanical strength at critical points and reducing the risk of delamination even under dynamic stresses or prolonged thermal cycles. Programmed gelation creates a hybrid elastic-monolithic interface, capable of absorbing and redistributing stresses without compromising structural integrity. This makes the system superior to industry standards, with higher crack-resistance performance, even on unstable substrates or those with residual moisture.

Chemistry + Smart

Free from oxirane. Does not contain C12-C14 (oxirane, mono-C12-14-alkyloxy methyl derivatives)
Not hazardous to the applicator
Not hazardous to the environment
Not hazardous for transport – ADR-compliant
Non-corrosive and non-toxic

Certifications

EN 12004
ISO 13007
MED 2014/90/EU
EC1 Plus Gev Eimcode
A+ Indoor air emissions
EPD Environmental Product Declaration

PowerGel® Pro and the environment

LCA results for Global Warming Potential – Greenhouse Gases (GWP-GHG)							
Impact category	Unit	A1-A3	C1	C2	C3	C4	D
Climate change GWP-GHG	kg CO ₂ eq	1,55	4.38 10 ⁻³	1,18 x 10 ⁻²	0	4.47 10 ⁻²	-1.99 10 ⁻²

Materials

Porcelain stoneware
Ceramic tiles
Large formats
Laminated stoneware slabs
Marble – Granite – Stone materials
Natural stone
Ceramic and glass mosaics
Composite glass panels
Terracotta – Klinker
Resin- or cement-based composites
Insulating and sound-absorbing panels for interiors

Substrates

Screeds
Self-levelling compounds
Levelling compounds
Plaster
Plasterboard
Plaster and anhydrite
Existing tiles
Concrete
Radiant heating systems
Waterproofing products of any kind
Decoupling membranes
Aerated concrete
Fibre-cement sheets
Concrete
Wood
Metal
PVC
Fibreglass

Uses

Adhesive
Floors – walls
Interior – exterior
Overlay
Radiant heating systems
Indoor wet areas – bathrooms and showers
Ponds, swimming pools and fountains
Terraces and balconies
SPA and Hammam
Facades
Industrial flooring
Residential, public, commercial and street furniture
Areas subject to heavy footfall and high stress
Approved for marine use in accordance with the MED Directive 2014/90/EU

Limitations

Refer to national standards, such as UNI 11493.
Ensure a full bed outdoors or under high loads.
Protect the tiled surface from heavy rain for at least 24 hours.
Ambient temperature and humidity may affect the workability and setting times of the gel.
Do not add water, lime, cement or any other foreign materials to the mixture.
Observe the mixing proportions.
Do not use where rapid foot traffic is required.
When applying at temperatures close to +10°C, it is recommended to add EpoxyGel Booster®. (Dosage: 1 pack of EpoxyGel Booster® (200 g) per 10 kg of PowerGel® Pro)
When bonding directly to fibreglass or PVC substrates, prior sanding is required.
Do not use for applications not listed on this technical data sheet.
For further information, please contact Litokol's Technical Customer Service on +39-0522-622811 or via customercare@litokol.com

Product specifications

Appearance	Part A: White gel
Appearance	Part B: Polymeric liquid
Colour	Speckled white
Responsible Packaging	Second-life recycled plastic buckets (Monopack A + B) – 10 kg
Storage	36 months in original packaging in a dry place. Do not expose to frost
Customs heading	35069190

Technical Specifications

Compliance	EN 12004 – ISO 13007	R2 T
Initial shear adhesion	$\geq 2.0 \text{ N/mm}^2$	EN 12003
Shear adhesion after immersion in water	$\geq 2.0 \text{ N/mm}^2$	EN 12003
Shear adhesion after thermal shocks	$\geq 2.0 \text{ N/mm}^2$	EN 12003
Open time	$\geq 0.5 \text{ N/mm}^2$ after 60 minutes	EN 1346
Slip	$\leq 0.5 \text{ mm}$	EN 1308
Deformability	Highly deformable	
Moisture resistance	Excellent	
Alkali resistance	Excellent	
Solvent resistance	Excellent	
Acid resistance	Low	

Application Specifications

Mixing ratio	Part A: 92.6 parts by weight
Mixing ratio	Part B: 7.4 parts by weight
Consistency of the mix	Epoxy gel
Specific gravity of the mixture	1.70 kg/dm^3
Pot life	> 60 min
Applicable thicknesses	From 1 to 20 mm
Open time	> 60 min
Recording time	> 60 min
Application	Notched trowel suitable for the tile size and substrate
Application temperatures	From +10°C to +30°C
Drying time for grouting	Wall: 12 hours – Floor: 24 hours
Ready for foot traffic	12 hours
Commissioning	5 days – Swimming pools 7 days
Operating temperature	From -40°C to +90°C
Cleaning of equipment	With water when the product is fresh. Mechanically once the product has hardened.
Coverage	3.5 mm trowel: $\sim 1.5 \text{ kg/m}^2$
Coverage	6 mm trowel: $\sim 2.5 \text{ kg/m}^2$
Coverage	8 mm trowel: $\sim 3 \text{ kg/m}^2$
Coverage	10 mm trowel: $\sim 3.5 \text{ kg/m}^2$
Coverage	Double coat: $\sim 5 \text{ kg/m}^2$
Notes	Data recorded at a temperature of +23 °C, 50% RH and in the absence of ventilation. These may vary depending on specific site conditions.

Preparation of substrates

In accordance with standard UNI 11493-1, substrates must be mechanically sound and free from crumbly parts, grease, oil, paint, wax and rising damp. Cement-based plasters must be allowed to cure for at least one week per centimetre of thickness.

Cement-based screeds must have a total curing time of at least 28 days or be laid using the innovative X-Floor and X-Floor Pro crack-resistant screeds. Create gradients on balconies or pavements using the new-generation crack-resistant levelling compound HydroLevel® 1-30.

Dusty, porous and absorbent substrates must be treated with X-Prime®, an innovative fixative and consolidant.

Smooth, compact substrates such as old ceramic tiles or terrazzo, metal, PVC and fibreglass must be cleaned with the specific X-Cleaner® Scrub cleaner.

In the case of anhydrite screeds, ensure that a suitable vapour barrier is in place to prevent any rising damp.

Check using a carbide hygrometer that the residual moisture content is less than 0.5% and 0.3% for underfloor heating screeds.

The surface must be sanded and the dust vacuumed up.

Any cracks or fissures must be sealed using the same epoxy gel, PowerGel® Pro.

In any case, it is essential to consult the relevant technical data sheets to ensure the correct use of the products indicated.

Preparation of the mix

To fully appreciate the superior flow and thixotropy of the innovative Epoxy Gel compound, we recommend mixing the product using the specified mixing ratio.

Cut a corner of the sachet containing the polymer catalyst (Part B) and pour it into the container holding Part A.

It is recommended to pour out the entire contents of the catalyst, gradually rolling and squeezing the sachet from the sealed end towards the cut end.

Polymerisation begins when the epoxy component is mixed with the hardener: this reaction creates new chemical bonds that form the three-dimensional network, the technological core of the epoxy gel's solid yet flexible structure.

This step is crucial, as uneven mixing could compromise its final properties, such as hardness, thermal resistance and chemical resistance.

For this reason, it is recommended to mix using a low-speed electric mixer (≈ 300 rpm) until a creamy, homogeneous mixture free from lumps is obtained, and to avoid overheating the mixture, which would reduce its workability time.

Scrape the sides and bottom of the container with a trowel or spatula to recover any uncured product residue.

Stir briefly to achieve a gel-like consistency that is easy to apply to both floors and walls.

Mixing by hand is not recommended.

Application

To ensure the gel adheres perfectly to the substrate, apply a thin, even coat of the mixture using the smooth side of the trowel and, immediately afterwards, apply the desired thickness using the notched side.

The notching of the trowel must be chosen according to the size of the material to be laid and the substrate.

In accordance with the UNI 11493-1 standard, use the double-coating technique, applying the Gel to the back of the tiles as well to ensure complete wetting, for outdoor installations, swimming pools, façades or areas subject to particularly high stress.

To ensure complete transfer of the gel to the back of the tiles, they must be laid onto the still-fresh adhesive whilst applying adequate pressure.

The workability time under standard temperature and humidity conditions is more than 60 minutes.

Very hot climates or storage at high temperatures can drastically reduce it; it is therefore advisable to apply the material within the permitted temperature range and to store it in a covered area.

In accordance with the UNI 11493-1 standard, tiles must be laid with joints of a width appropriate to their size.

Take account of any partition or structural joints and provide suitable expansion, partition and perimeter joints.

Special Applications

Protective barrier

When carrying out waterproofing and laying ceramic tiles or mosaics simultaneously in shower cubicles and internal damp areas, apply a layer of at least 1 mm of Gel to the area to be waterproofed using a smooth trowel; once the Gel has set (approximately 12–24 hours), apply the product with a notched trowel to lay the ceramic tiles.

Marble, natural stone and engineered stone

Unstable marble or natural stone prone to deformation or staining due to water absorption requires a high-performance epoxy gel such as PowerGel® Pro, FastGel® Pro or PowerGel® Pro Max (R2T – EN 12004).

Even marbles and natural stones of the same type can have different characteristics.

If in doubt, we recommend consulting Litokol's Technical Customer Service in advance for detailed information or to carry out a laboratory test.

Natural stone slabs with reinforcing layers applied to the back (resins, reinforcing mesh, etc.) or specific treatments (e.g. anti-rising damp, etc.) require a high-performance epoxy gel such as PowerGel® Pro or PowerGel® Pro Max (R2T- EN 12004).

Before installation, check for any traces of dust or debris on the back of the slabs. If present, these must be removed.

Heated floors

At least 4 days after laying the X-Floor® or X-Floor® Pro anti-crack screed, you can start up the heating system with a supply water temperature ranging from +20°C to +25°C, maintaining it at a constant level for at least 3 days.

Next, set the maximum design temperature and maintain it for a further 4 days.

At the end of this cycle, allow the screed to return to room temperature and lay the covering (EN 1264-4).

Swimming pools

In accordance with standard UNI 11493 – 7.13.3, swimming pool tiling must be designed taking into account mechanical, thermo-hygrometric and

chemical stresses: continuous contact with chemically treated water (even during the winter season) and frequent sanitisation procedures.

In concrete structures, the correct composition must be ensured (UNI 11104 – EN 206) and the correct curing time observed (minimum 6 months, UNI 11493 - 7.3.1).

It is essential to waterproof the external part of the structure, taking preventive measures to avoid any infiltration that could cause the waterproofing membrane applied inside the tank to detach, such as drainage along the sides of excavations or waterproofing using osmotic mortars.

Grind and level surfaces with HydroLevel® 1-30, a quartz-reinforced structural levelling compound with controlled expansion to prevent cracking.

Waterproof the pool surfaces using the watertight, crack-resistant SafetyGel® elastic gel membrane with 6-Dimensional Elasticity technology, or the breathable, tripolymer waterproof gels enhanced with quartz microspheres from the HydroPad® range featuring 4-Way Flex technology.

If the swimming pool consists of a metal structure, the pool can be waterproofed using PowerGel® Pro Max as a waterproofing agent.

Seal critical areas such as construction joints with HydroStop, and pipes passing through recirculation, filtration, drainage and lighting systems with HydroPixel®.

It is recommended that a water-tightness test be carried out before installing the cladding.

Always apply adhesive to the back of the material as well (double coating) in order to achieve a full bed of adhesive, ensure full force transfer and guarantee the durability of the system.

Facades

When installing on external walls ($H > 3$ m), as these tiled surfaces are subject to high dilatometric stresses due to thermo-hygrometric variations and given the safety risk associated with potential detachment, it is recommended that you consult Litokol's Technical Customer Service in advance to accurately identify the safest installation technique.

In accordance with standard UNI 11493 – 7.13.7, the following general guidelines must be followed: the substrate must ensure a cohesive tensile strength of $\geq 1.0 \text{ N/mm}^2$.

In the case of masonry substrates consisting of bricks/clay blocks, lightweight blocks, etc., direct application is not permitted; instead, application onto plaster in accordance with the above instructions is required.

For cladding with a side length > 30 cm, the designer must assess whether it is necessary to specify suitable mechanical safety fixings.

Separation and expansion joints must be provided as specified in sections 7.11.1.2 and 7.11.1.3.

Always apply adhesive to the back of the material as well (double coating) in order to achieve a full bed of adhesive, ensure full force transfer and guarantee the durability of the system.

Grouting, sealing and maintenance

For grouting, X-Color® 0-6 or X-Color® 2-12 decorative grouts can be used. To create waterproof joints with high colour fastness and superior chemical and mechanical resistance, use the decorative epoxy gels from the Starlike® range.

For the elastic sealing of expansion joints, partition joints and perimeter joints, use sealants from the Pixel 3D range.

For post-construction washing, cleaning, maintenance and surface protection, use the specific Litokol detergents from the X-Cleaner and Starlike® Care ranges.

Warnings

Due to the high adhesion resulting from gelation, we recommend washing tools and removing any product residue from surfaces with water before the gel sets.

Once the reaction is complete and the gel has hardened, it can only be removed mechanically.

Safety Information

For the safe use of our products, please refer to the latest version of the Safety Data Sheet, available at www.litokol.com

PRODUCT FOR PROFESSIONAL USE

Legal notices

The information and specifications set out in this technical data sheet are based on our best experience.

However, as we are unable to directly influence site conditions or the execution of the works, these are general guidelines which do not in any way bind our Company.

We therefore recommend carrying out a preliminary test to verify the product's suitability for the intended use; in any case, anyone intending to use it is required to determine whether or not it is suitable for the intended use and, in any event, assumes all liability that may arise from its use.

Always refer to the latest updated version of the Technical Data Sheet, available on the website www.litokol.com

Specification item

The installation, both indoors and outdoors, in accordance with UNI standards 11493-1 and 11714-1, of floor and wall coverings comprising all types of tiles, porcelain stoneware, slabs, marble and natural stone of any size on any substrate will be carried out using a permanently elastic, crack-resistant epoxy gel, classified as R2T in accordance with standard EN 12004, type PowerGel® Pro by Litokol Lab SpA.

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