

Starlike® Crystal EVO

**TWO-COMPONENT ACID-RESISTANT
TRANSLUCENT EPOXY GROUT FOR GROUTING
CLEAR AND ARTISTIC VITREOUS MOSAICS WITH
JOINTS UP TO 3 mm WIDE**



DESCRIPTION

Part A is composed of an epoxy resin mix, based on fine grade glass bead aggregates and organic rheological components. Component B consists of an innovative organic catalyst with lower exposure risks for users. Once mixed together, the two components form a creamy mixture with excellent smoothness, which is also suitable for vertical application with no dripping. Once hardened, the product is high-performing in term of mechanical and chemical resistance.

ADVANTAGES

- Translucent colour that allows the filtration of light.
- Bacteriostatic product which prevents the proliferation of fungi and moulds.
- Depending on the particular fineness of the glass micro spheres, it is possible to achieve extremely smooth and compact finishes.
- High mechanical strength.
- Waterproof.
- Total absence of cracking or crazing after hardening.
- Excellent chemical resistance.
- Unlike other epoxy grouts on the market, the Starlike® Crystal EVO catalyst (component B) is labelled only as an irritant. It is neither corrosive nor hazardous for the environment.
- Starlike® Crystal EVO is not classified as hazardous goods and is, therefore, exempt from transportation restrictions (ADR-ADN-IMDG-IATA classes).
- Product with ultra-low volatile organic compound emission rate (VOC) compliant with class A+ according to the French Regulation and class EC1 PLUS according to the EMICODE protocol.
- Contains ≥ 50% of recycled material.

EN 13888 CLASSIFICATION:

Class RG – Reactive grout

Packaging

1 kg plastic bucket - 200 kg EUR pallet
2.5 kg plastic bucket - 437.5 kg EUR pallet
5 kg plastic bucket - 500 kg EUR pallet

FIELDS OF APPLICATION

The special translucent colouring of Starlike® Crystal means the product, when filled into the joints, is able to “absorb” the colour of the clear glass tiles and therefore change depending on their colour.

Best results are obtained when the mosaic is applied to transparent substrates such as glass and plexiglass, which may eventually be backlit by a light source. In this case, the mosaic tiles must be bonded using an appropriate clear adhesive cartridge.

In the case of traditional substrates such as cement or gypsum-based renders, panelling etc., the mosaic tiles must be bonded with white adhesives such as Litoplus K55 (cementitious adhesive in class C2TE) or Litoelastic EVO (two-component reactive adhesive in class R2T) depending on the type of substrate. Thanks to this characteristic, with Starlike® Crystal

EVO it is possible to obtain vitreous mosaic surfaces with highly prestigious effects and a strong visual impact, for example:

- Creation of backlit indoor walls.
- Backlit wall tiles for bar counters or public venues.
- Floor and wall tiles in bathrooms, kitchens, shower boxes, etc.
- Grouting of vitreous mosaics laid on structures and forms developed with extruded polystyrene used in Turkish baths, hammam and health spas;
- Grouting of vitreous mosaics in pools and jacuzzis.
- Development of decorative surfaces such as columns, tables, etc.

Another possibility of use for Starlike® Crystal EVO concerns the grouting of artistic mosaic tiles, that is, compositions made using mosaic tiles, which when specifically shaped and combined, reproduce exclusive images rich in different nuances and shadings.

If these images were to be grouted using traditional coloured grouts, the appearance of the represented figure would be compromised insofar as coloured grouting creates discontinuity between the mosaic tiles. Vice versa, using Starlike® Crystal EVO, thanks to its semi-transparency, the original nuances of the composition remain unaltered, developing a “neutral”, colourless grouting that doesn't interfere with the image.

Product suitable for direct contact with food substances according to the following EC legislation: Regulation 1935/2004/EC, Regulation (EU) 2018/213, Regulation 1985/2005/EC, Directive 2002/72/EC and subsequent amendments and modifications and under the following Italian legislation: Ministerial Decree 21/03/1973 and subsequent amendments and modifications, Presidential Decree 777/82 and subsequent amendments and modifications.

A copy of the certificate may be requested from the Litokol technical department.

The product can therefore be used to grout vitreous mosaics in environments exposed to direct contact with food.

APPLICATION PHASES

Preliminary checks and joint preparation

Check that the adhesive used to bond the mosaic tile is completely hardened and dry.

The joints must be completely dry, clean, free of dust and empty for the entire thickness of the mosaic tile, in order to guarantee the translucent effect of the product.

For bonding, it is recommended to use a 2 mm V-notch trowel (art. 910).

Mix ratios

Component A: 93.7 parts by weight

Component B: 6.3 parts by weight

The two parts are pre-batched in their respective packaging.

Preparing the mix

Cut off a corner of the bag containing the catalyst (component B), placed in the small bucket, and pour it onto component A (paste). The entire contents of the bag should be emptied out by rolling it up and gradually pressing the

bag from the sealed side towards the side that has been cut. Using an electric drill with mixing paddle, mix from the bottom up at low speed until obtaining a consistent paste without any lumps.

Scrape the sides and the bottom of the container, using a steel trowel, to make sure that all the paste is catalysed. Hand mixing is not recommended. The two parts are pre-dosed in their packaging, thus preventing the risk of mixing. The paste has a pot life of approximately 1 hour at a temperature of about +23°C.

Grouting the mosaic surface

Fill the paste into the joints using a special green grout float (art. 946 GR). In the case of wall tiles, it is recommended to spread the grout, developing complete vertical strips before proceeding to clean.

Remove the excess product using the grout rubber float. If the joints need to be filled with additional paste, this must be done before they are cleaned with water so as to avoid the formation of white crystals on the surface.

The product's pot life and hardening time is strongly dependent on the ambient temperature. The optimum application temperature is between +18 and +23°C. Under these conditions, the product is soft, easily workable and with a pot life of approximately 1 hour. It is set to light foot traffic after 24 hours. The grout is ready for use and resistant to chemicals after 5 days at a temperature of +23°C.

The hardening time is lengthened by low temperatures and shortened by high temperatures.

At a temperature of +15°C, it takes three days before the surface is set to light foot traffic and ten days to be ready for use.

At temperatures between +8 and +10°C, the product is very dense and difficult to apply. The hardening time is also lengthened considerably.

Do not add water or solvents to improve workability. In hot weather, it is advisable to spread the product on the surface as quickly as possible so as not to further shorten the pot life due to the heat of reaction in the container.

CLEANING AND FINISHING

The grouting should be cleaned and finished when the product is still fresh, and in any case as quickly as possible, taking care not to empty the joints and without leaving product halos on the surface of the mosaic tiles. Clean initially using the trowel with white felt (art. 109GBNC) using a lesser amount of water, making circular movements in both a clockwise and anti-clockwise direction so as to perfectly seal the sides of the mosaic tiles and remove any excess grout from the surface. During this phase it is important to prevent the stagnation of water, promptly soaking it up with a tightly wrung rigid sweepex sponge (art. 128G0001). This second clean is essential in order to obtain a smooth, sealed surface, completely removing the product from the mosaic surface without emptying the joints and drying any excess water.

During this phase, prevent the water from entering the empty joints, stopping the cleaning operation a few centimetres before the unfilled joints. Any holes or imperfections should be promptly repaired when the surface is dry and the product has hardened.

To facilitate the cleaning operation, we recommend using two buckets full of water, one for rinsing the felt pad and sponge, as well as to collect any dirty water, and the other filled with clean water for the final surface cleaning.

Replace the felt pad and sponge when they become soaked with resin and can no longer be cleaned.

Any halos or residual clear product can be removed from the mosaic surface after about 24 hours or in any case once the joint has hardened

(depending on the temperatures) using the specific detergents Litonet EVO (floor tiles) or Litonet Gel EVO (wall tiles).

Read the relative technical data sheet for correct use.

USE OF LITONET EVO AND LITONET GEL EVO TO REMOVE HALOS

Spread the detergent on the surface to be cleaned using the white felt (art. 109GBNC). Let it work for about 15-30 minutes. Then proceed to rub the surface with the white felt.

Rinse with water and dry immediately with a clean, dry cloth.

Do not wait for the rinsing water to evaporate insofar as other halos would form on the mosaic surface.

WARNINGS

- The product can only be used for the grouting of clear or artistic vitreous mosaics with joints no wider than 3 mm.
- Spread the product in conditions with temperatures between +10°C and +30°C. Avoid application in conditions with low temperatures and high relative humidity in order to prevent the formation of surface carbonation, which may alter the uniformity of the colour.
- During cleaning, prevent the water from entering the empty joints, stopping a few centimetres before the unfilled joints.
- If the joints need to be filled with additional paste, this must be done before they are cleaned with water. Any holes or imperfections noted after cleaning should be promptly repaired when the surface is dry and the product has hardened.
- Avoid rising the adhesive in the thickness of the joint insofar as it interferes with the end colour. Any discontinuity in the spreading of the adhesive will also be visible when grouting is complete.
- Ensure the tools used and the mosaic tiles to be grouted are clean. Given the translucent nature of the product, any colour interferences will be visible.
- Promptly remove any excess product from the surface of the mosaic tiles insofar as the product, once hardened, can only be removed mechanically, posing serious risks to the end result.
- Mix the two components (A+B) correctly.
- While cleaning, change the water frequently.
- Change the felt pad and sponge when they are impregnated with resin.
- Do not walk on the newly grouted surface to avoid staining the floor with epoxy resin.
- Do not cover the grouted surface with sheets or other materials to prevent condensation from forming that could cause surface carbonation of the product resulting in an uneven colour. Wait at least 24 - 48 hours, depending on the temperature, before protecting the surface with breathable materials.
- The product must not be used to grout tanks containing aggressive substances for which only occasional contact is allowed (see chemical resistance table in the technical data sheet).
- Do not mix the product with water or solvents.
- For the maintenance and cleaning of surfaces grouted with Starlike® Crystal EVO, it is advisable not to use bleach. If not properly diluted and well rinsed, the grouting may turn yellow which is especially noticeable on light colours.
- Do not use aggressive detergents during the first 5 days of grout curing time.
- Do not use the product for applications not stated in this technical sheet.



IDENTIFICATION DATA

Appearance	Component A: translucent paste Component B: thick liquid
Colour	Crystal 700
Customs code	35069190
Shelf life	24 months in original packaging when stored in a dry place

APPLICATION DATA

Recommended adhesives for mosaic tile laying	Cement and gypsum-based substrates (treated with Primer C), existing tiles (treated with Prepara Fondo EVO): Litoplus K55 (class C2TE) Wood, metal, fibreglass panelling: Litoelastic EVO (class R2T) Plexiglass: Primer 1217 + OTTOCOL M501 transparent Glass: OTTOCOL M501 transparent
Recommended trowel	V-notch trowel, 2 mm (art. 910)
Ready for grouting	24 hours
Mix ratio	Component A: 93.7 parts by weight Component B: 6.3 parts by weight The two components are pre-measured in their respective packaging
Consistency of mix	creamy
Specific gravity of mix	1.55 kg/l
Pot life	About 1 hour at T=+23°C
Application temperatures	Allowed: from +10°C to +30°C - Recommended: from +18°C to +23°C
Set to light foot traffic	24 hours at T=+23°C
Ready for use	5 days at T=+23°C
Joint width	Up to 3 mm

PERFORMANCE

Resistance to abrasion (EN 12808-2)	≤ 250 mm ³
Mechanical flexural strength after 28 days in standard conditions (EN 12808-3)	≥ 30 N/mm ²
Mechanical compressive strength after 28 days in standard conditions (EN 12808-3)	≥ 45 N/mm ²
Shrinkage (EN 12808-4)	≤ 1.5 mm/m
Water absorption after 4 hours (EN 12808-5)	≤ 0.1 g
Temperature of use	From -20°C to +100°C

Consumption table

mm	10x10x4	15x15x4	15x15x6	15x15x8	15x15x10	20x20x4	20x20x8	23x23x4	23x23x6	23x23x8	(mm)		
											1	2	3
		1,4											
				1,2									
				1,8									
				2,4	3,5								
				2,7									
				1									
				2	3								
				0,85									
				1,3									
				1,7									

Mosaici artistici Artistic mosaics Mosaïques artistiques Künstlerische Mosaiken Mosaicos artísticos		4 mm	kg/m ²	0,9
		6 mm		1,35
		8 mm		1,8
		10 mm		2,25

SAFETY INFORMATION

Consult the product safety data sheets, available on request.
PRODUCT FOR PROFESSIONAL USE.

ITEM SPECIFICATION

The decorative grouting of joints between clear or artistic vitreous mosaics applied to floors or walls in indoor and outdoor locations, must be carried out using a two-component acid-resistant translucent epoxy grout such as Starlike® Crystal EVO by Litokol S.p.a. Grouting will be smooth and compact, without any cracks, non-absorbent, uniform in colour, UV resistant and weatherproof.

CHEMICAL RESISTANCE TABLE

(The table is a summary of the chemical resistance tests performed according to Regulation UNI EN 12808-1)
CHEMICAL RESISTANCE OF WALL TILES GROUTED WITH Starlike® Crystal EVO

Group	Name	Conc. %	CONTINUOUS USE				INTERMITTENT USE
			24 hours	7 days	14 days	28 days	
Acids	Acetic acid	2.5	●	●	●*	●*	●
		5	●	●	●*	●*	●
	Hydrochloric acid	37	●	●*	●*	●*	●
	Citric acid	10	●	●	●	●	●
	Lactic acid	2.5	●	●	●	●	●
		5	●	●	●	●	●
		10	●	●	●	●*	●
	Nitric acid	25	●	●	●	●*	●
		50	●	●	●	●	●
	Pure Oleic acid	-	●	●	●	●	●
	Sulphuric acid	1.5	●	●	●	●	●
		50	●	●	●	●	●
		96	●	●	●	●	●
Tartaric acid	10	●	●	●	●	●	
Alkalis	Ammonia in solution	25	●	●	●	●	●
	Caustic soda	50	●	●	●	●	●
		Sodium hypochlorite in solution Conc. Active Cl	10	●	●	●	●*
	Potassium hydroxide	50	●	●	●	●	●
	Solutions saturated at 20°C	Calcium Chloride		●	●	●	●
Sodium Chloride			●	●	●	●	●
Sugar			●	●	●	●	●
Oils and fuels	Lead-free gasoline		●	●	●	●	●
	Diesel		●	●	●	●*	●
	Extra Virgin Olive Oil		●	●	●	●	●
	Lubricant oil		●	●	●	●	●
Enzymatic cleaners	Cleaner 1 at 4%		●	●	●	●*	●
	Cleaner 2 at 5%		●	●	●	●	●
Solvents	Acetone		●	●	●	●	●
	Ethylene glycol		●	●	●	●	●
	Ethyl alcohol		●*	●*	●*	●*	●*
		Hydrogen peroxide	10 vol	●	●	●	●
	25 vol	●	●	●	●	●	

KEY

● RESISTANT ●* RESISTANT WITH POSSIBLE COLOUR VARIATION ● NON-RESISTANT

Although the information provided in this technical data sheet is accurate to the best of our knowledge and experience, it is intended purely as a guideline.
The user must carry out preliminary practical tests before each use and is solely responsible for the final result.

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