

MOSAICO.SG

DRESS UP WITH MOSAIC



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MOSAICO.SG PTE LTD

MOSAICO.SG, the leading mosaic tile company in Singapore. Established in March, 2011.

With offer high quality design mosaics with the latest trends from all around the world – especially from Europe, to suit your desired designs for any

- Swimming Pool
- Floor/wall/Ceiling
- Feature wall
- Bathroom
- Residential
- Hotel
- Retail stores
- F&B outlets
- SPA/Wellness center
- Club House
- Boutiques

In support of the green movement, our company prefers to work with companies which have been given the green certificate and are eco-friendly.

Our main brands include

- SICIS
- BISAZZA
- TREND
- EZARRI
- ONIX
- VIDREPUR
- C E R A M I C A VOGUE
- APPIANI
- COTTO
- WINCKELMANS
- MOSARTE
- PETRAANTIQUA
- CORDICER
- LITOKOL



Our Collection

Glass
Mosaics



Ceramic
Mosaics



Wood
Mosaics



Stone
Mosaics

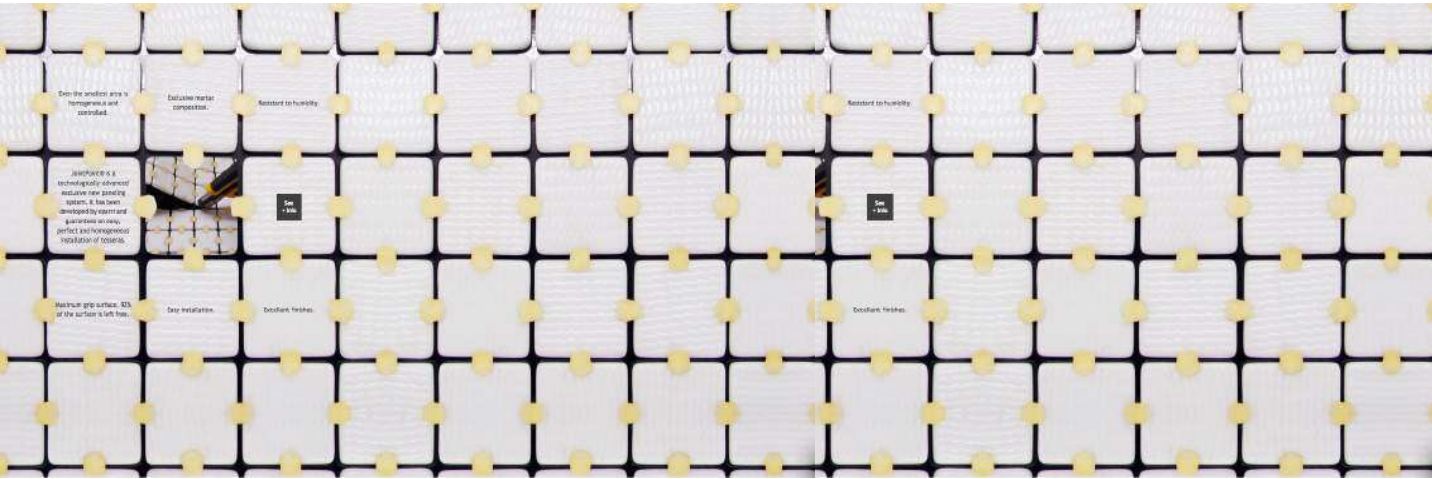


Metal
Mosaics



JOINTPOINT SYSTEM

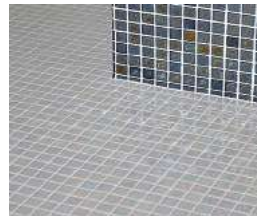
JointPoint is a very technologically advanced system solely developed by **EZARRI**, guaranteeing perfect and uniform mosaic tiling.



Benefits of JointPoint:



Maximum grip surface. 92% of the surface is left free.



Resistant to humidity.



Even the smallest area is homogeneous and controlled.



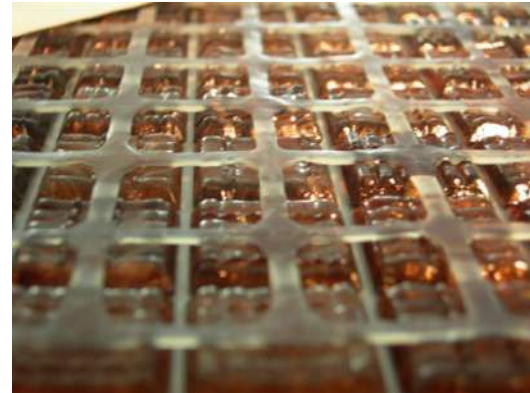
Even the smallest area is homogeneous and controlled.



MOSAICO.SG

PLUS BACKING SYSTEM

- The new support that keeps the mosaic tiles together through a net of reactive polyurethane (PUr) fixed to the back to the tiles.
- The material used to realize PLUS backing system has a mono-component chemical structure totally free from solvents and non-inflammable.
- It can be used with all the special adhesive for glass mosaic (cement based, polyurethane and epoxy adhesives); It guarantees the perfect fixing for any kind of application, both internal and external.
- This material represents the best solution for fixing mosaic tiles in each environment, also in case of direct contact with water, as for steam baths, tanks and swimming pools.
- It was be used with any laying technique: with a simple cutter you can separate the tiles and manually adjust the laying.



Job Reference

MOSAICO.SGPTE LTD Singapore project references



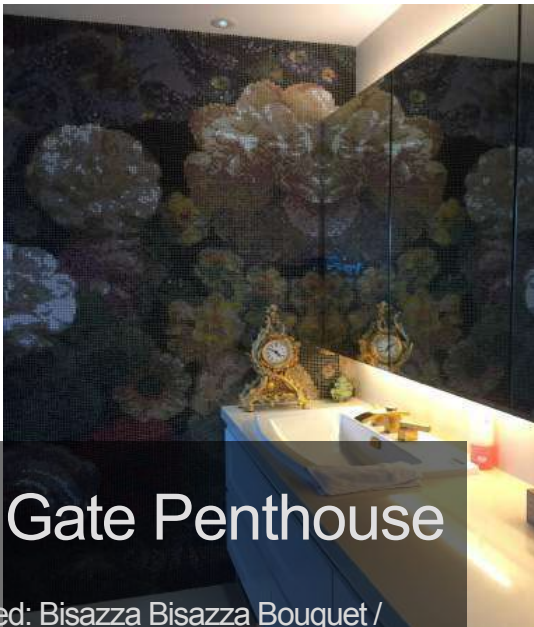
Goodwood Residence

Mosaic Used: SICIS Customised design



Job Reference

MOSAICO.SG PTE LTD Singapore project references



River Gate Penthouse

Product Used: Bisazza Bisazza Bouquet /
Endimione wall

Job Reference

MOSAICO.SG PTE LTD Singapore project references



River Gate Penthouse

Product Used: Bisazza Bouquet



Job Reference

MOSAICO.SG PTE LTD Singapore project references



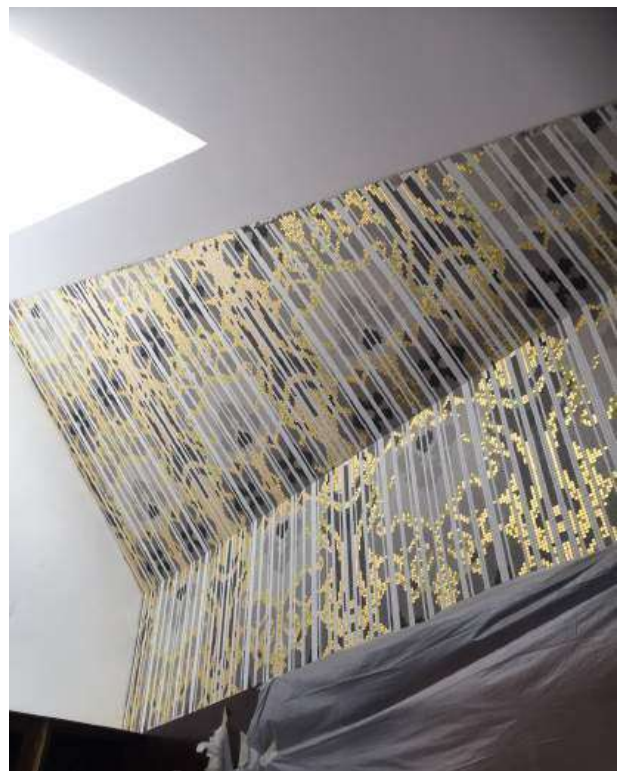
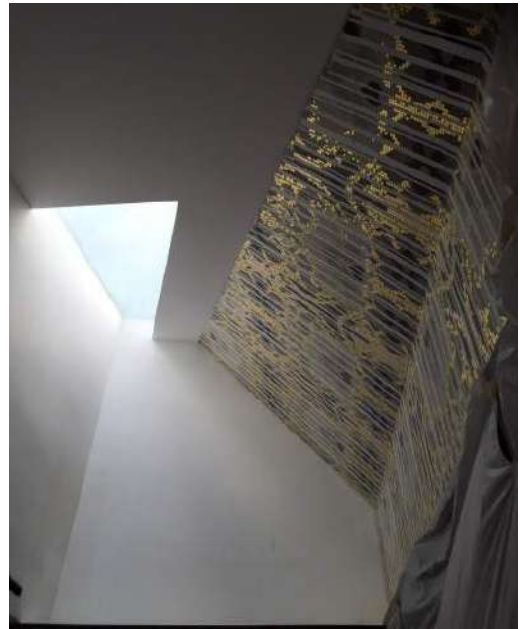
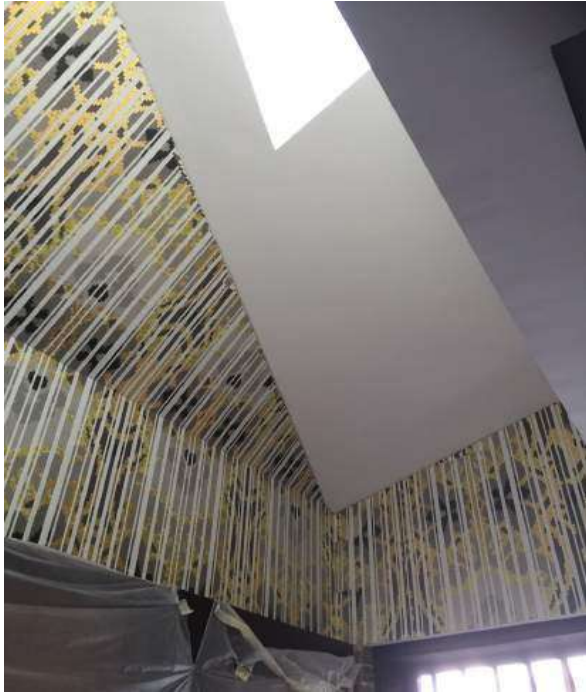
Private House

Product Used: Bisazza Springrose Nero



Job Reference

MOSAICO.SGPTE LTD Singapore project references



Sentosa Cove

Mosaic Used: BISAZZA Hermitage

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Andrew Road

Mosaic Used: SICIS PX 331 Grey HD



Job Reference

MOSAICO.SG PTE LTD Singapore project references

Andrew Road

Mosaic Used: SICIS PXAngel Customised color



Job Reference

MOSAICO.SGPTE LTD Singapore project references

Andrew Road

Mosaic Used: SICIS Orient 601 Customised color

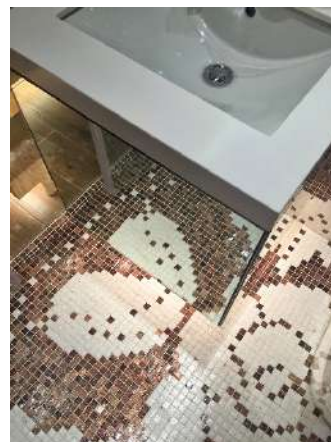


Job Reference

MOSAICO.SGPTE LTD Singapore project references

Marrison Hotel

Mosaic Used: Trend Customize Design



Job Reference

MOSAICO.SGPTE LTD Singapore project references



1 George Street

Material Used: Digital printing tile 20x20cm



Job Reference

MOSAICO.SGPTE LTD Singapore project references

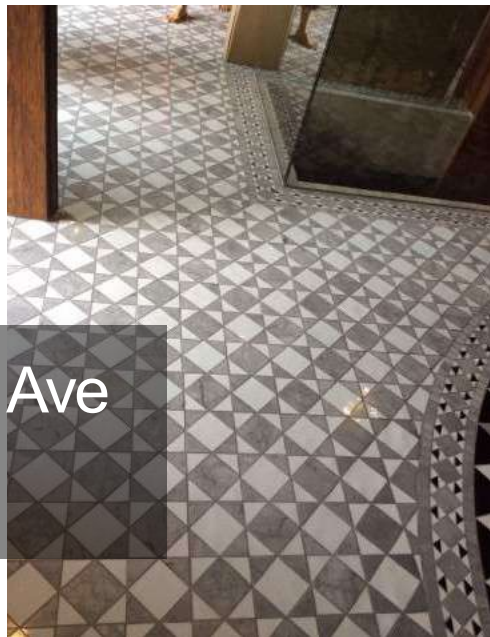


Artemis Restaurant

Mosaic Used: SICIS Customised design

Job Reference

MOSAICO.SG PTE LTD Singapore project references



Mount Sinai Ave

Product used: SICIS Stone

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Artemis Restaurant

Mosaic Used: SICIS Customised design

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Private House

Mosaic Used: Custom Design



Job Reference

MOSAICO.SG PTE LTD Singapore project references



Boulevard Vue Penthouse

Mosaic Used: SICIS Cuscaden Walk

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Ridout Road

Mosaic Used: SICIS / Bisazza Custom mix



Job Reference

MOSAICO.SGPTE LTD Singapore project references



Summer Ville

Mosaic Used: SICIS Customised design

Job Reference

MOSAICO.SG PTE LTD Singapore project references



Private House

Product Used: SICIS Rug



Job Reference

MOSAICO.SG PTE LTD Singapore project references



Jervois Road



Mosaic Used: Bisazza

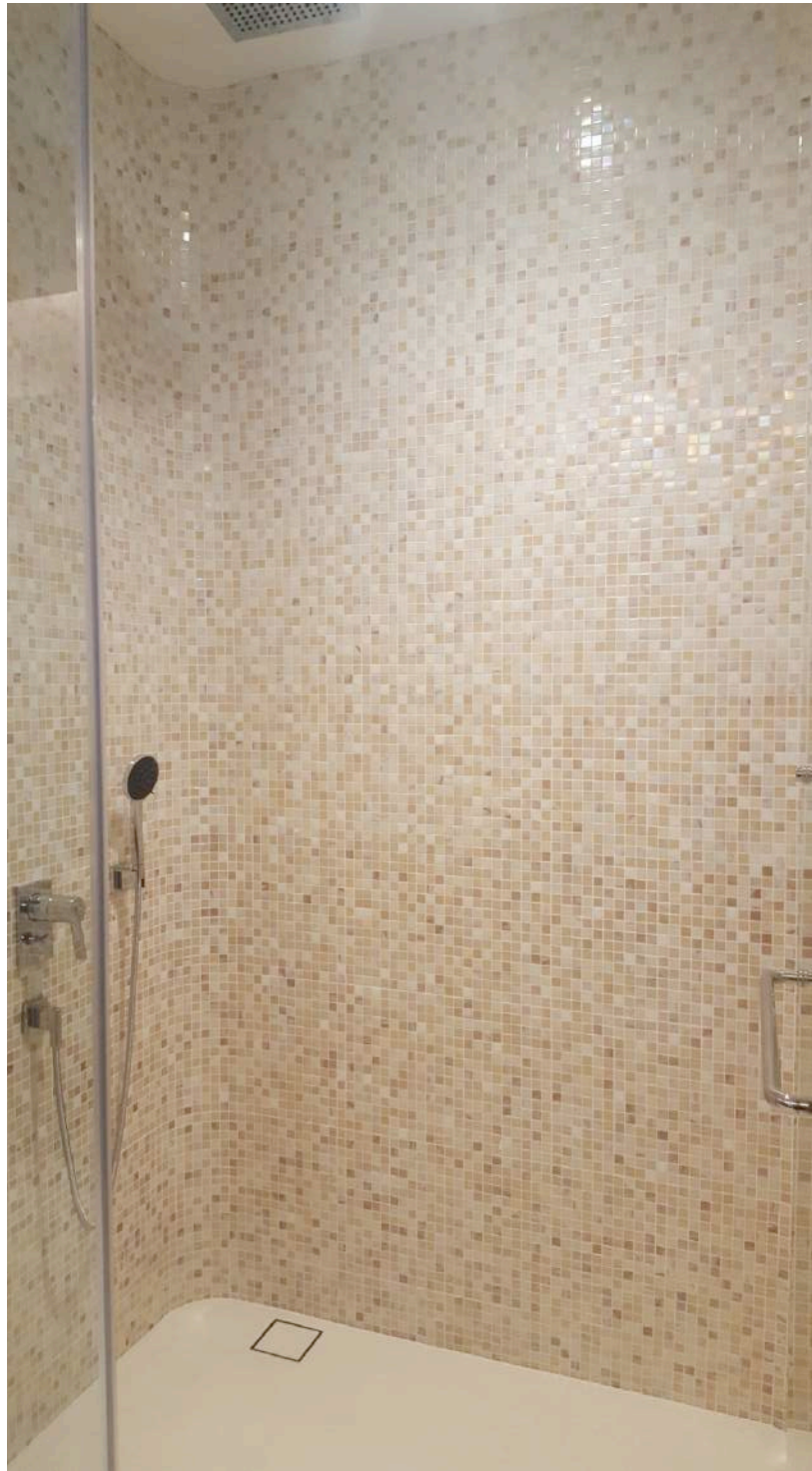
Job Reference

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Jervois Road

Mosaic Used: Bisazza



Job Reference

MOSAICO.SGPTE LTD Singapore project references



Jervois Road

Mosaic Used: Bisazza



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MOSAICO.SGPTE LTD Singapore project references



Jervois Road

Mosaic Used: Bisazza

Job Reference

MOSAICO.SGPTE LTD Singapore project references

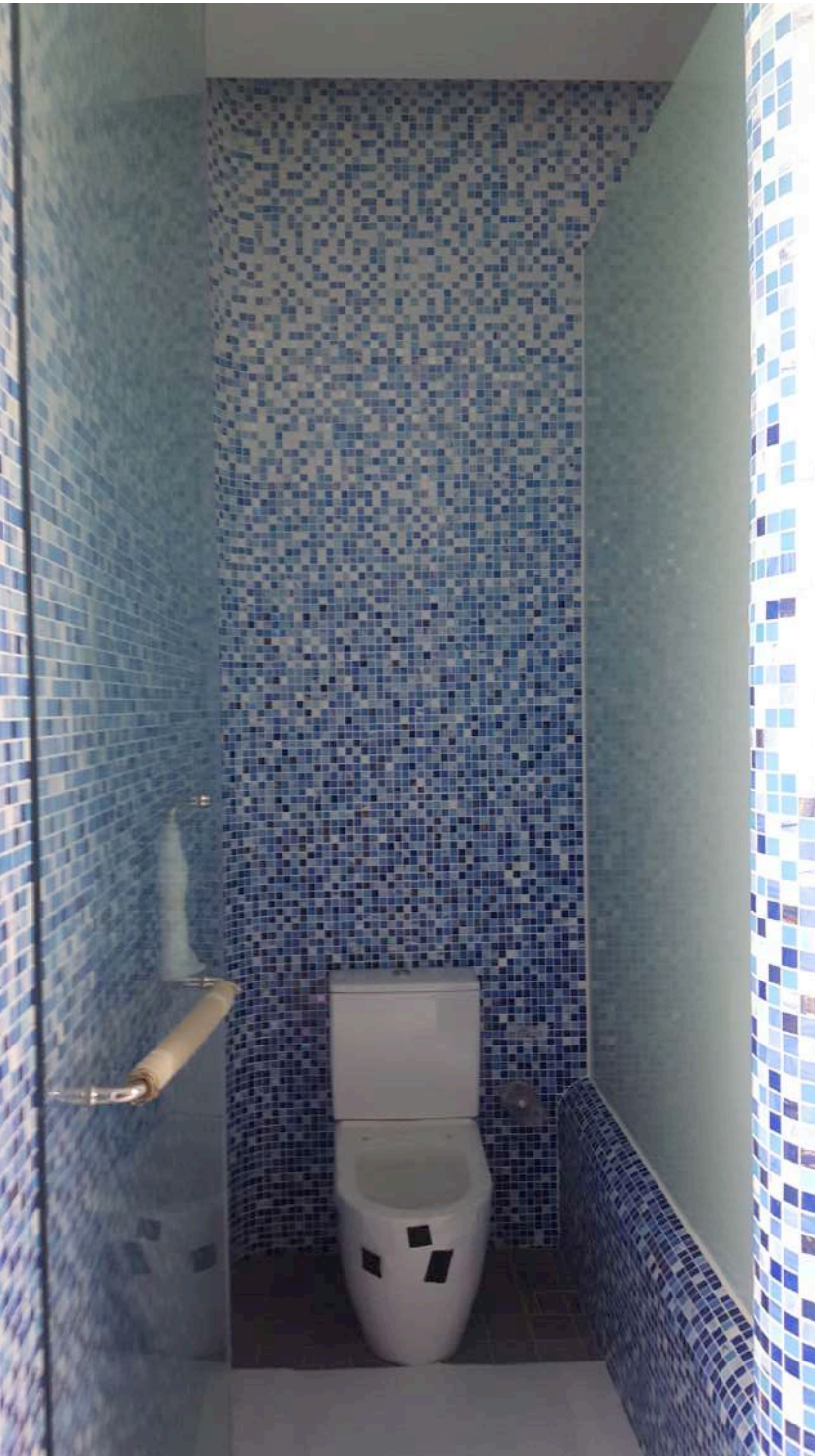


Jervois Road

Mosaic Used: Bisazza

Job Reference

MOSAICO.SG PTE LTD Singapore project references



Jervois Road

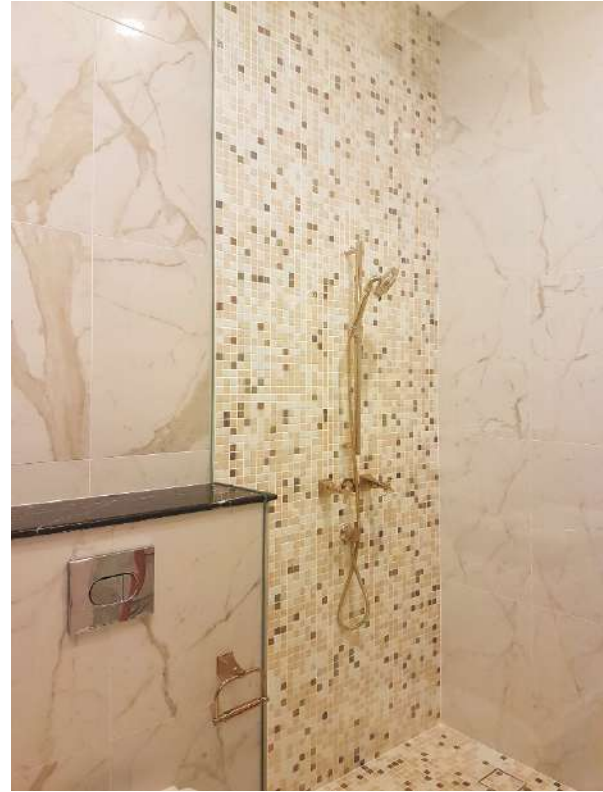
Mosaic Used: Bisazza

Job Reference

MOSAICO.SGPTE LTD Singapore project references

Tanglin Hill

Mosaic Used: Ezari Daikiri



Job Reference

MOSAICO.SG PTE LTD Singapore project references

Tanglin Hill

Mosaic Used: Ezari San Francisco

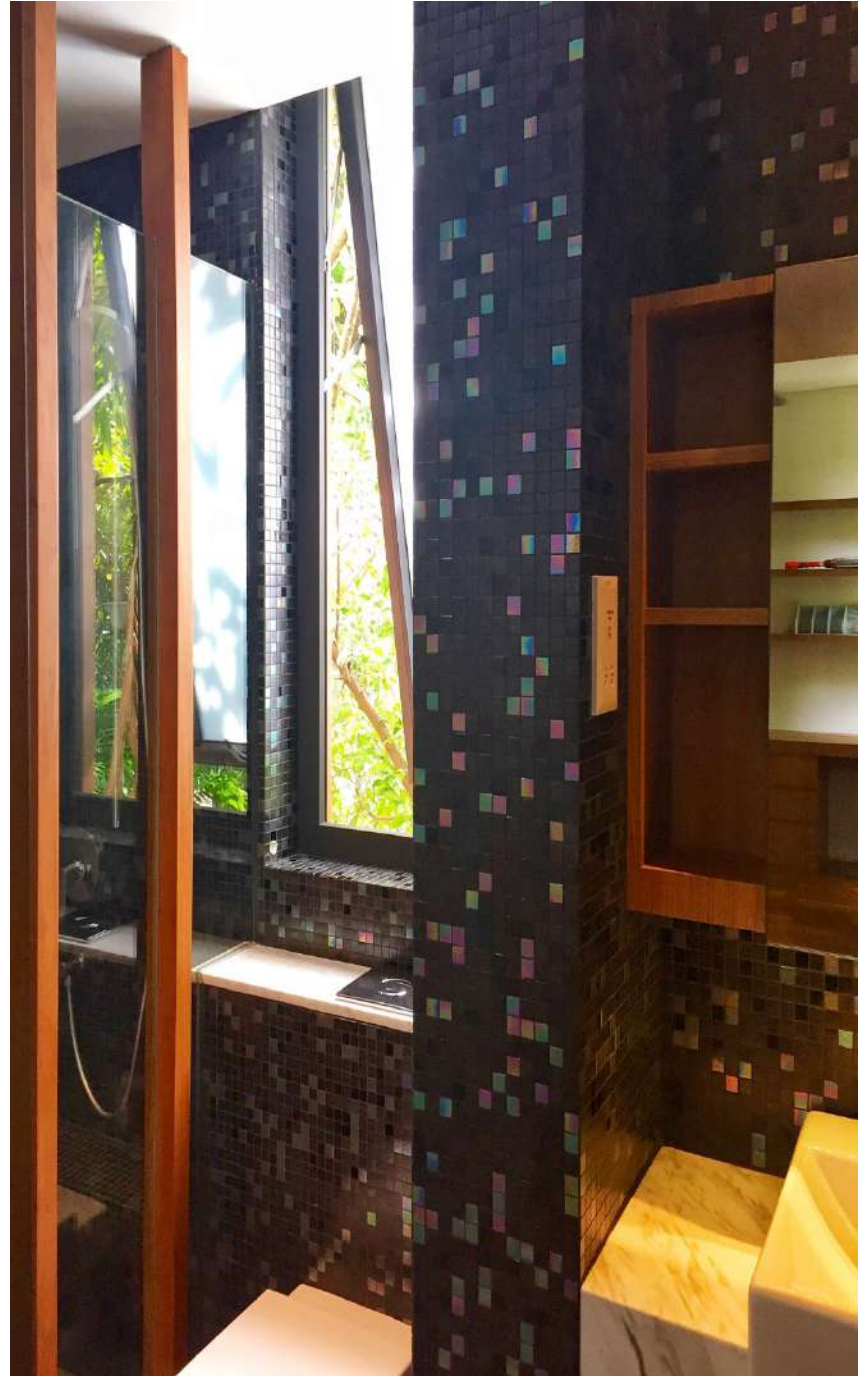


Job Reference

MOSAICO.SGPTE LTD Singapore project references

Jalan Elok

Mosaic Used: Trend Custom Mix



Job Reference

MOSAICO.SGPTE LTD Singapore project references



Private House

Mosaic Used: I Frammenti Mix

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Ridout Road

Mosaic Used: Sicis Custom mix



Job Reference

MOSAICO.SG PTE LTD Singapore project references



Bencoolen MRT Station

Mosaic Used: Bisazza Customised design



Job Reference

MOSAICO.SGPTE LTD Singapore project references



Andaz Hotel

Mosaic Used: Vogue Customised design

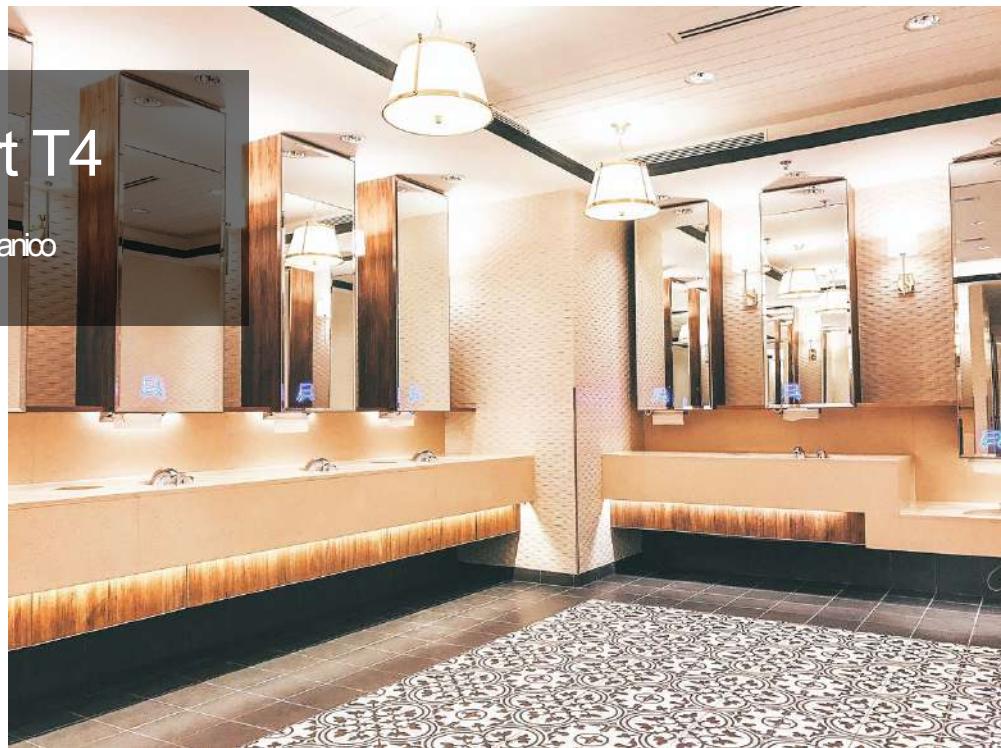
Job Reference

MOSAICO.SGPTE LTD Singapore project references



Changi Airport T4

Material Used: Coolcer Porcelanico



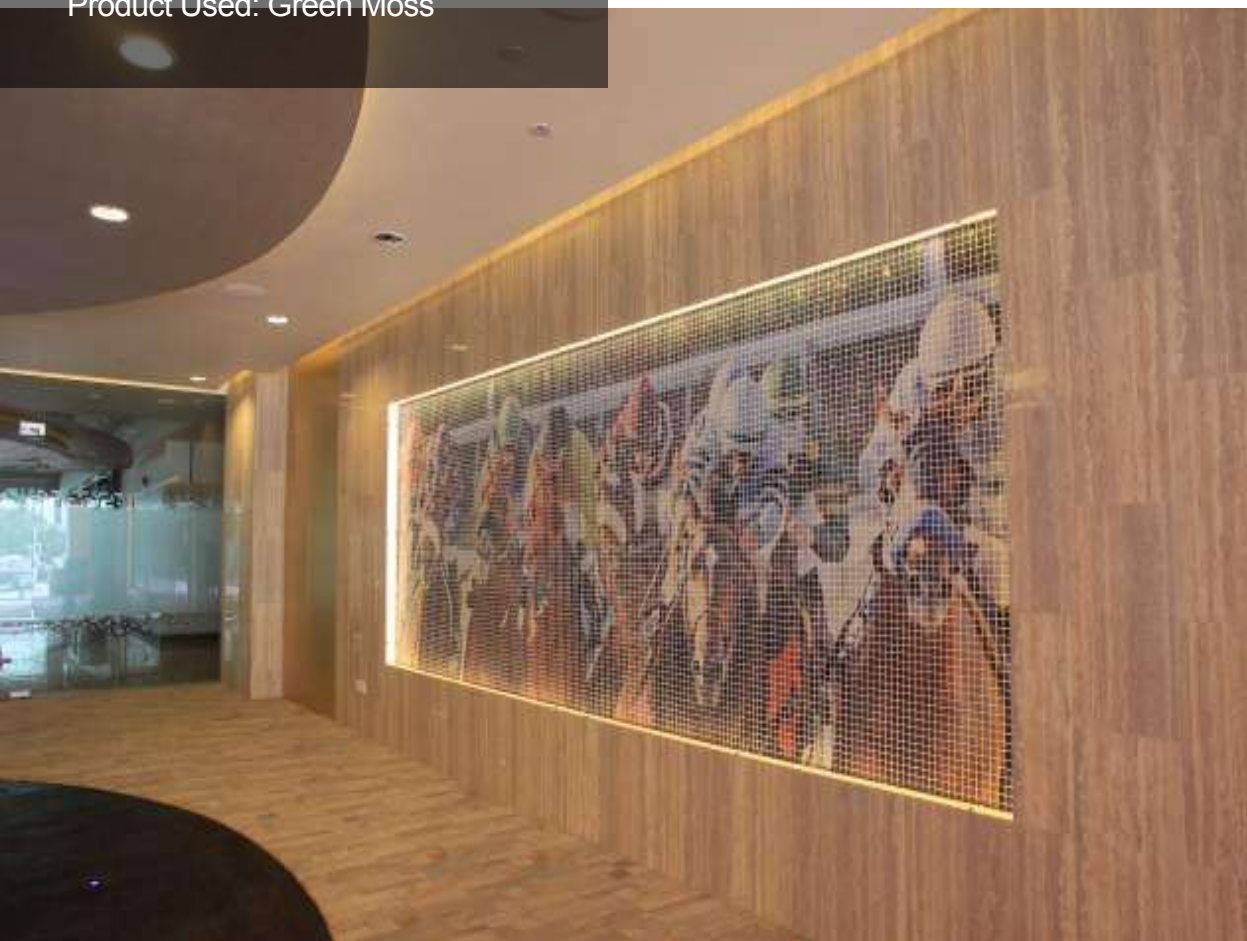
Job Reference

MOSAICO.SG PTE LTD Singapore project references



Singapore Turf Club

Product Used: Green Moss



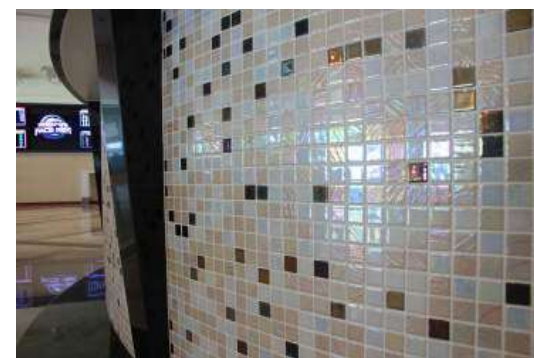
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MOSAICO.SGPTE LTD Singapore project references



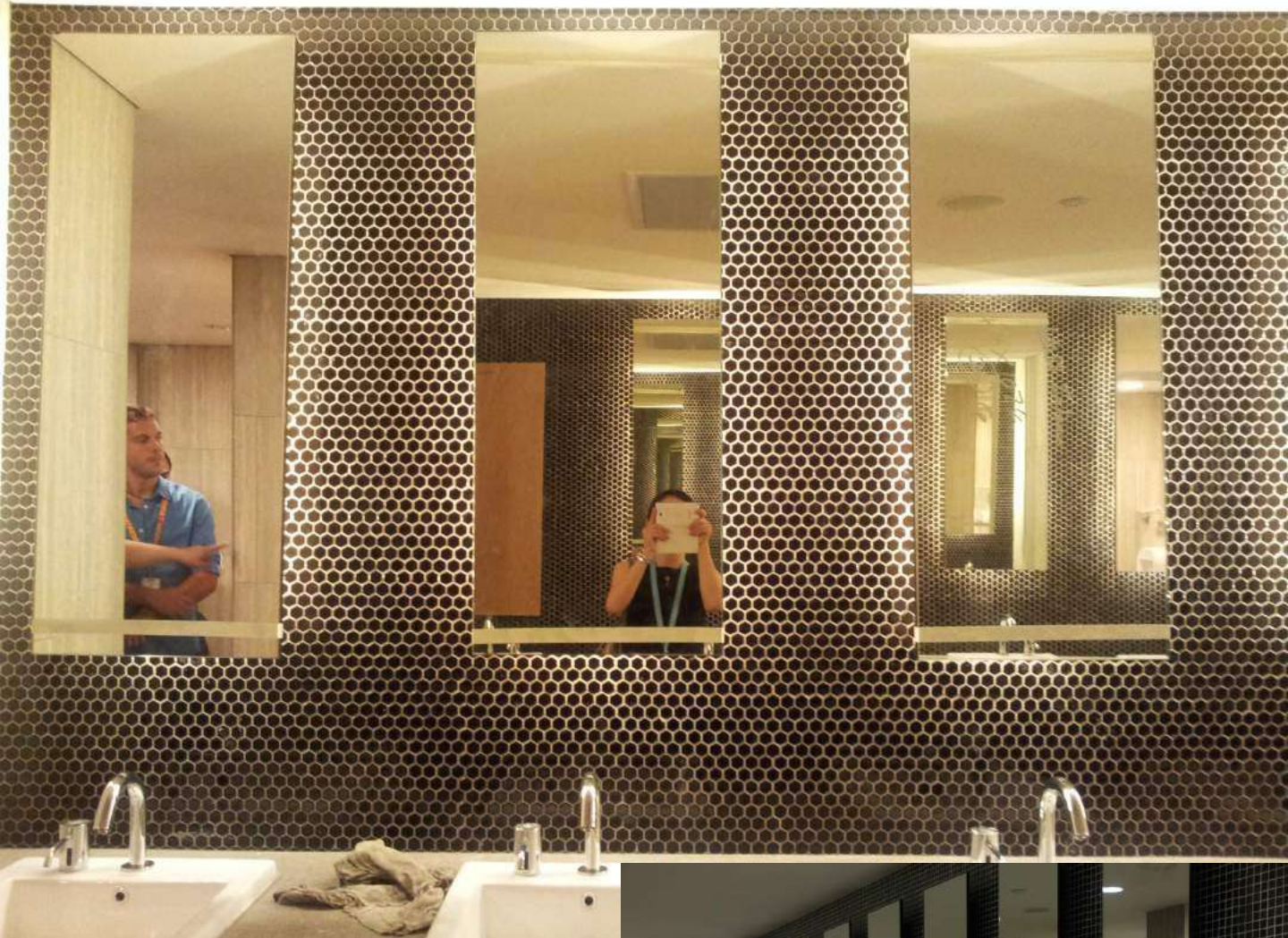
Singapore
Turf Club

Mosaic Combination:
Daikiri



Job Reference

MOSAICO.SG PTE LTD Singapore project references



Singapore Turf Club

Hexagon Mosaic Bathroom



Job Reference

MOSAICO.SG PTE LTD Singapore project references



Chai Chee Road

Material Used: EZARRIAlexander



Job Reference

MOSAICO.SG PTE LTD Singapore project references



Yishun Ring Road

Material Used: EZARRI Carrara



Job Reference

MOSAICO.SGPTE LTD Singapore project references



JEM NTUC Jurong

Product Used: Green Moss

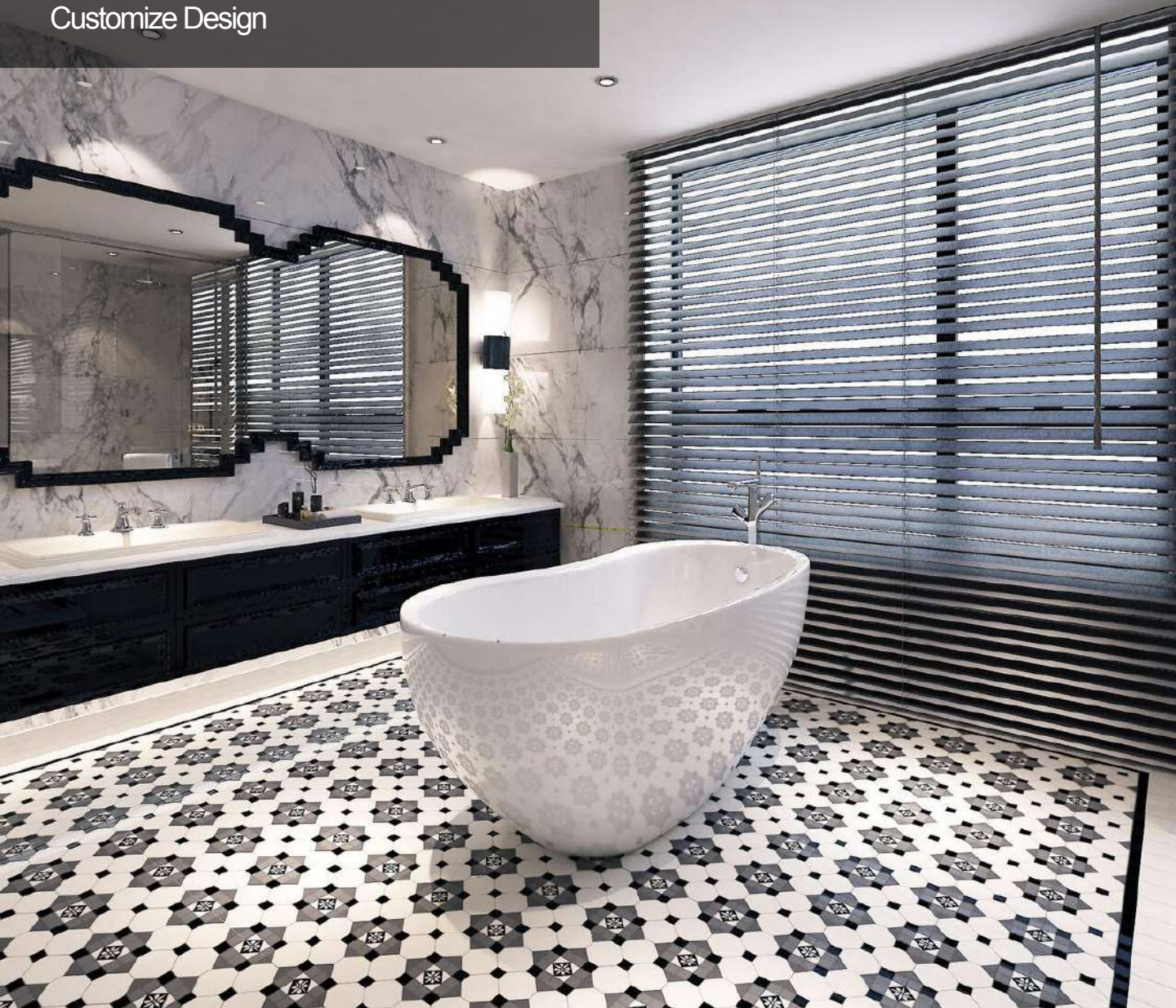
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Job Reference

MOSAICO.SGPTE LTD Singapore project references

WINCKELMANS Ceramic Mosaic
Customize Design



Job Reference

MOSAICO.SGPTE LTD Singapore project references

WINCKELMANS Ceramic Mosaic
Customize Design



Job Reference

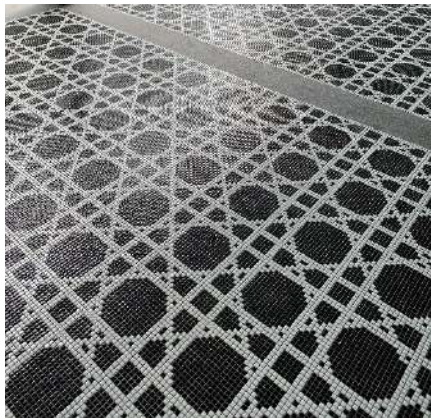
MOSAICO.SG PTE LTD Singapore project references



Cocodaia (Amoy Street)
Mosaic used: Bisazza customized design

Job Reference

MOSAICO.SG PTE LTD Singapore project references



Ewart Park
Mosaic used: Bisazza Vienna Nero

Job Reference

MOSAICO.SGPTE LTD Singapore project references

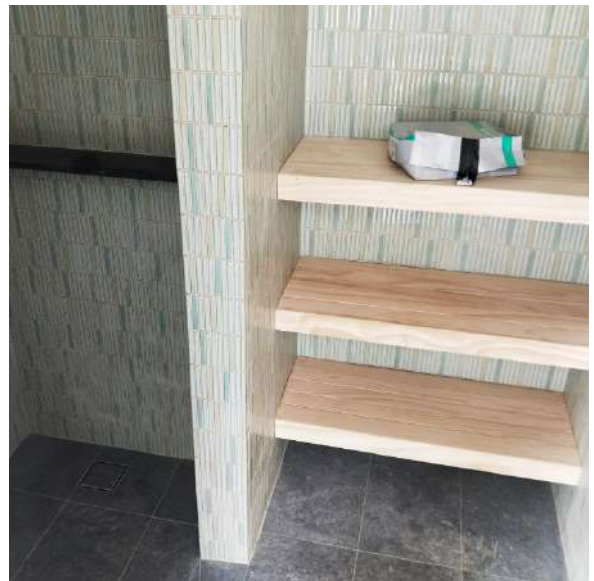


LinkedIn Office

Mosaic used: Digital Print customized design

Job Reference

MOSAICO.SG PTE LTD Singapore project references



Bukit Sedap
Mosaic used: JTW Turquoise Green Mix

Job Reference

MOSAICO.SGPTE LTD Singapore project references

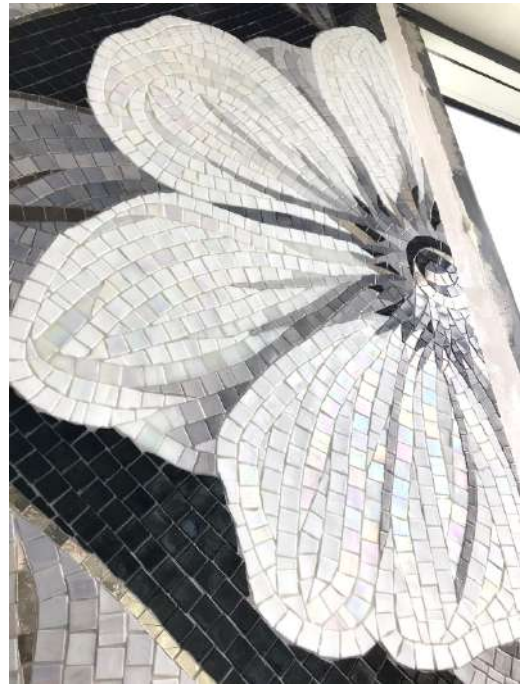


Kafe Utu (Jiak Chuan Road)

Mosaic used: Petra Noisette

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Grange Residence
Mosaic used: SICIS Flower Power

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Grange Residence

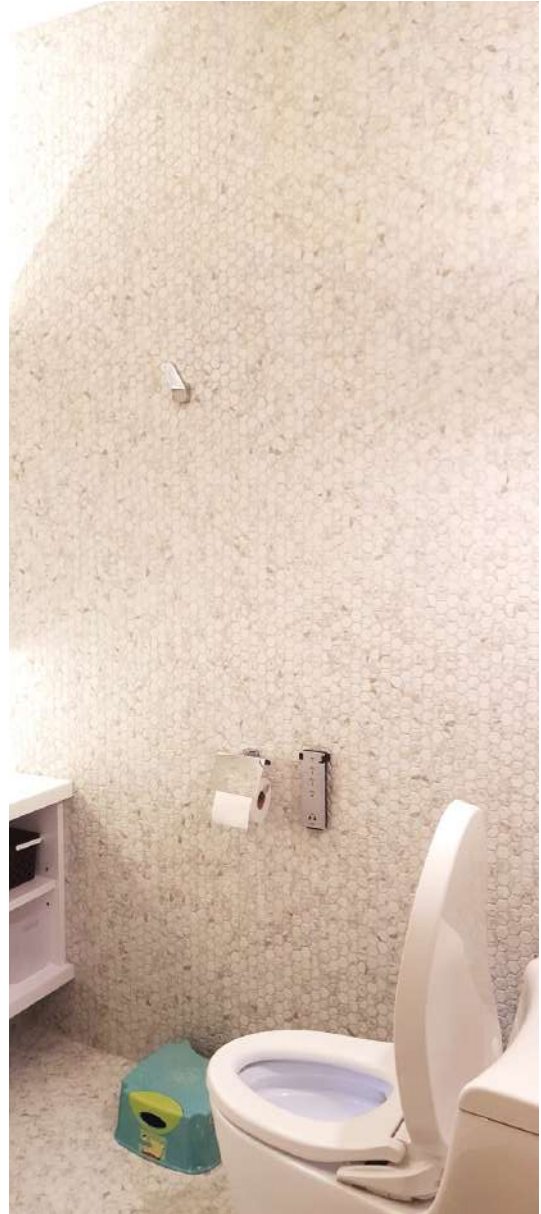
Mosaic used: SICIS Flower Power

Grange Residence

Mosaic used: Winckelmans Basket Weave

Job Reference

MOSAICO.SG PTE LTD Singapore project references

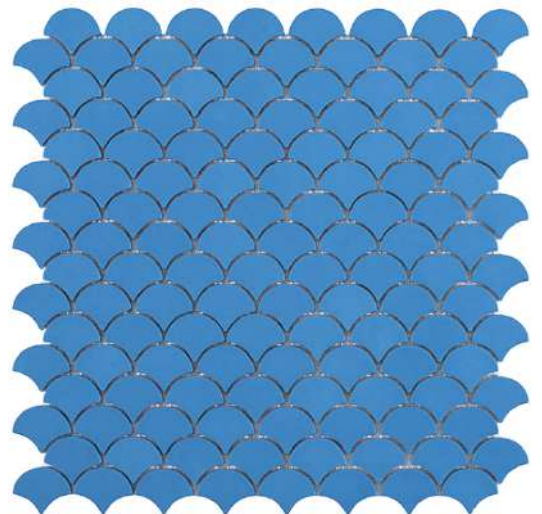


Pearl Island

Mosaic used: Onix Hex Statuario Matte

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Dunman Road
Mosaic used: Vidrepur 6104S

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Dunman Road

Mosaic used: Winckelmans Pink Hex

Job Reference

MOSAICO.SGPTE LTD Singapore project references



Renku Lounge @ MBS
Mosaic used: Hexagon Marble Mosaic

Mosaic Installation

Two-component acid-resistant epoxy grout for the laying and grouting of ceramic tiles and mosaic with joints between 1 and 15mm width.



Sweepex sponge for epoxy plastering



White felt



Mosaic Installation — Epoxy Grout colours



STARLIKE® EVO



GALAXY



SPOTLIGHT



GOLD



STARLIKE® EVO



GALAXY



SPOTLIGHT



GOLD



Mosaic Installation — Epoxy Grout colours



STARLIKE® EVO



GALAXY



SPOTLIGHT



GOLD



Mosaic Installation — Epoxy Grout colours

Metallic COLLECTION



STARLIKE® EVO Neutro + **Platinum**



STARLIKE® EVO Neutro + **Shining Gold**



STARLIKE® EVO Neutro + **Bronze**



STARLIKE® EVO Neutro + **Copper**



STARLIKE® EVO Neutro + **Rusty**



STARLIKE® ColorCrystal EVO



800 Grigio Oslo



810 Verde Capri



820 Azzurro Taormina



825 Beige Havana



830 Rosa Kyoto

Technical Data Sheet — Starlike Evo

LITOKOL

Grouts



STARLIKE® EVO

TWO-COMPONENT ACID-RESISTANT EPOXY GROUT FOR THE INSTALLATION AND GROUTING OF CERAMIC, PORCELAIN AND MOSAIC TILES WITH JOINTS BETWEEN 1 AND 15 mm WIDTH. PATENTED FORMULA



DESCRIPTION

Two-component acid-resistant epoxy grout. Component A consists of a mixture of epoxy resin, sintered micro sphere with fine granulometry and specific organic additives. 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 walls application without vertical slip with no dripping. Once hardened, the product is high-performing in term of mechanical and chemical resistance.

ADVANTAGES

- Extremely easy application and cleaning, even compared to normal cementitious grouts. Prevents the release of colour pigments onto ceramic surfaces.
- Bacteriostatic product which prevents the proliferation of fungi and moulds.
- The extreme fineness of the sintered micro sphere with fine granulometry makes it possible to obtain highly smooth and compact finishes.
- Stable and uniform colouring for all types of tiles with exclusive colour effects.
- High mechanical strength.
- Waterproof.
- Total absence of cracking or crazing after hardening.
- Excellent chemical resistance.
- Unlike other epoxy grouts on the market, Starlike® EVO catalyst (component B) is only labelled as irritant. It is neither corrosive nor hazardous for the environment.
- Starlike® EVO is not classified as hazardous goods and is, therefore, exempt from transportation restrictions (ADR-ADN-IMDG-IATA classes).
- Product with ultra-low emission of volatile organic compounds (VOCs), compliant with class A+ (Émission dans l'air intérieur – French regulations) and the EC1PLUS class according to the EMICODE protocol.
- Contains ≥ 10% of recycled material.

EN 13888 CLASSIFICATION

Starlike® EVO - RG Class Reactive Grout

EN 12004 CLASSIFICATION

Starlike® EVO is an R2T Class high-performance reactive vertical no-slip adhesive for interior and exterior floor and wall ceramic tiling. Its compliance with harmonized standard EN 12004 is indicated on the CPR-IT326 Declaration of Performance, according to the European Regulation for construction products (CPR - Construction Products Regulation No.: 305/2011/EU) and tested by a European notified centre as per certification system 3.

PACKAGING

1 kg plastic bucket = Standard pallet 200 kg
2.5 kg plastic bucket = Standard pallet 437.5 kg
5 kg plastic bucket = Standard pallet 500 kg

FIELDS OF APPLICATION

- Suitable for the acid-resistant installation and grouting of ceramic and porcelain tiles and mosaics with 1 to 15 mm wide joints, on indoor and outdoor floors and walls.
- The wide range of colours and finishes allows for highly attractive matching with mosaics, ceramics, natural stone and the latest trend in glass slabs for residential and public/commercial settings.
- Suitable for applications where the surfaces are exposed to aggressive chemical substances (see Chemical Resistance Table) such as dairies, abattoirs, pubs, food factories in general. Suitable for applications subject to heavy-duty operating conditions, such as swimming pools, hammams, jacuzzis, heavy-traffic floors, and tiles exposed to extreme temperature fluctuations. Typical applications include:
 - Grouting of ceramic tiles and mosaics on wooden kitchen tops;
 - Bonding and grouting of ceramic tiles and mosaics in swimming pools, including surfaces waterproofed with Elastocem, Coverflex or Aquamaster.
 - Grouting of tiles on balconies and terraces.
 - Bonding and grouting on floors and walls of tiles and mosaic in public and private bathrooms and shower cubicles.

Technical Data Sheet — Starlike Evo

LITOKOL®

Grouts

- Grouting of ceramic and porcelain tiles, mosaics and natural stones installed on metal surfaces for the construction of prefabricated bathrooms;
- Grouting of ceramic tiles, thin reinforced porcelain slabs, mosaics, natural stones or resin agglomerates installed on heated floors;
- Grouting of glass or ceramic mosaic joints installed on structures and shapes made of extruded polystyrene panels used in Turkish baths, hammams and wellness centres;
- Grouting of ceramic tiles, porcelain tiles and thin slabs, including large slabs with or without reinforced back, installed on external façades;
- Also recommended for grouting swimming pools or tanks containing salt or thermal water.

Product suitable for direct contact with food substances under 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 for grouting ceramic tiles in environments with direct contact with food, e.g. worktops for handling meat, dairy products or flour, tanks for breeding fish, kitchen counter tops in restaurants, fried-food stalls, bakeries, etc.

Preliminary checks and joint preparation

Check that the adhesive or mortar used for bonding the tiles is completely hardened and dry. The joints must be clean, dust free and unfilled for at least 2/3 of the tile thickness.

Any traces of excess adhesive or mortar between the joints must be removed.

Mixing ratios

Component A: 93.7 parts by weight

Component B: 6.3 parts by weight

The two components are pre-measured in their respective packaging

Preparation of the mix

Cut off a corner of the plastic bag containing the catalyst (component B), placed in the 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.

Mix using an electric drill fitted with a mixing paddle until a uniform, lump-free mix is obtained.

Scrape the sides and the bottom of the container, using a steel spatula, to make sure that all the paste is catalysed.

Hand mixing is not recommended.

The two components are pre-measured in their packaging, thus preventing the risk of mixing errors.

The paste is workable for approximately 1 hour at a temperature about +23°C.

Finishes

If the Spotlight, Gold, Galaxy and Night Vision finishes are used, add the product as the third component after mixing the catalyst (component B). Make sure you pour it in slowly as these additives are very volatile and use a mixing paddle at a low speed to avoid the dispersion of them.

Metallic Collection

To obtain the Platinum, Shining Gold, Bronze, Copper and Rusty metallic finishes, the respective additives must only be mixed with Starlike® EVO 113 Neutro. Add the product as the third component after mixing in the catalyst (component B). Make sure you pour it in slowly as these additives are very volatile and use a mixing paddle at a low speed to avoid dispersion of the product.

Grouting the tiled surface

Fill the paste obtained into the joints using the special green grout rubber float (art. 946GR).

For large surfaces, an electric single-brush floor maintenance machine equipped with an abrasion-resistant rubber brusher can be used.

Remove the excess product using the rubber float.

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 apply the product to the floor as quickly as possible so as not to shorten the pot life even further due to the heat of reaction in the container.

CLEANING AND FINISHING

The grouting must be cleaned and finished while the product is still fresh and, in any case, in the shortest possible time, taking care not to remove the grout from the joints or leave stains on the surface of the tiles.

Cleaning and finishing can be performed either manually or using an electric single-brush machine equipped with a felt disc.

Manual method

First sprinkle clean water over the grouted surface.

If necessary, perform initial cleaning using a float fitted with a moistened white felt pad (art. 109GBNC). Make circular movements in both clockwise and anticlockwise directions in order to seal the sides of the tiles perfectly and to remove excess grout from the surface of the tiles.

Now perform a second pass with a Sweepex sponge (art. 128G0001) in order to obtain a smooth, closed surface and to remove the product completely from the surface of the tiles, without removing it from the joints, as well as to dry off the excess water.

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 impregnated with resin and can no longer be cleaned.

Any stains or transparent product residue can be removed from the surface of the tiles after about 24 hours or after the joint has hardened (depending on the temperature), using the special Litonet EVO (floors) and Litonet Gel EVO (walls) cleaning products.

Technical Data Sheet — Starlike Evo

LITOKOL®

Grouts

Refer to the technical data sheet for information on how to use them correctly.

Method with single-brush machine

After removing any excess grout from the surface, sprinkle plenty of clean water over the grouted surface. Then, start cleaning with the single-brush machine fitted with a white felt pad.

Replace the felt pad when it is completely impregnated with the product.

If necessary, the Litonet EVO cleaner can be used to remove any stains after 24 hours or, at any rate, after grout hardening (depending on the temperature).

Using Litonet EVO and Litonet Gel EVO to remove stains

Spread the cleaner over the entire surface to be treated using the white felt pad (art. 109GBNC).

Let it work on for about 15-30 minutes.

Then, use the white felt pad (art. 109GBNC) or the single-brush machine for large floors, rubbing the surface. Rinse with water and dry immediately with a clean, dry cloth.

Do not wait for the rinsing water to evaporate to prevent stains from forming on the surface of the tiles.

USE AS ADHESIVE

Preliminary tests of the substrates

Before installation, check that the substrates are clean, free of loose fragments, properly dried and cured, flat and level, and that the mechanical resistance requirements based on the intended use have been met.

Application

Spread the mixture onto the substrate using the smooth part of the trowel to create a layer approximately 1 mm thick. Immediately afterwards, spread the product onto the surface using the notched part of the trowel. The trowel notch size will depend on the size of the tiles.

Apply the wall tiles by using steady pressure. In the case of floors subject to heavy traffic or swimming pools, apply the tiles with the back-buttering method, in order not to leave gaps between substrate and tile.

- If possible, apply the product at temperatures between +18°C and +23°C.

Do not use at low temperatures or in environments with high humidity, in order to avoid surface carbonation that could modify the uniformity of the colour.

- Promptly remove any excess product from the surface of the tiles since the product, once hardened, can only be removed mechanically, with serious risks of compromising the final outcome.
- 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 cannot, therefore, be used for grouting Tuscan terracotta tiles or other porous materials and articles, such as cement kerbs.
- If grouting natural stone, it is necessary to execute a preliminary test, in order to verify the absorption of resin by the stone slabs. In this case, darker stains may form on the surface and sides of the slabs which cannot be removed. This problem usually occurs on light-coloured marble.
- The product cannot be used for grouting tanks containing aggressive substances, which are allowed only for intermittent contact (see Chemical Resistance Table).
- Do not mix the product with water or solvents.
- Thin ceramic stoneware obtained by compaction and with structured wood-effect surfaces can present problems for the removal of halos. In these cases, you should perform a preliminary sample application or consult the Litokol technical department.
- The use of bleach is not recommended when maintaining and cleaning surfaces grouted with Starlike® EVO. If not properly diluted and well rinsed, the grouting may turn yellow which is especially noticeable on light colours.
- Do not use aggressive cleaning products during the first 5 days of grout curing time.
- Do not use Spotlight, Gold and Galaxy additives and Platinum, Shining Gold, Bronze, Copper and Rusty metallic finishes for outdoor applications (terraces, balconies, façades, swimming pools, etc.) because they have poor resistance to UV rays.
- Do not use the product for applications not stated in this technical sheet.

SAFETY INFORMATION

Consult the product safety data sheets, available on request.

PRODUCT FOR PROFESSIONAL USE.

ITEM SPECIFICATION

The acid-resistant installation and grouting of ceramic tiles and mosaics with 1 to 15 mm wide joints must be carried out with a two-component coloured epoxy RG class reactive grout, pursuant to EN 13888 and R2T class, according to standard EN 12004, such as Starlike® EVO, produced by Litokol S.p.A.

Technical Data Sheet – Starlike Evo



IDENTIFICATION DATA

Appearance	Component A: thick coloured paste Component B: thick liquid				
Colours	CLASS Cold	CLASS Warm	GLAM		METALLIC Collection
	100 Bianco Assoluto	200 Avorio	300 Azzurro Pastello	500 Rosa Cipria	Platinum
	102 Bianco Ghiaccio	202 Naturale	310 Azzurro Polvere	530 Viola Ametista	Shining Gold
	105 Bianco Titanio	205 Travertino	320 Azzurro Caraibi	550 Rosso Oriente	Copper
	110 Grigio Perla	208 Sabbia	330 Blu Avio	580 Rosso Mattone	Rusty
	115 Grigio Seta	210 Greige	340 Blu Denim	600 Giallo Vaniglia	Bronze
	120 Grigio Piombo	215 Tortora	350 Blu Zaffiro		
	125 Grigio Cemento	225 Tabacco	400 Verde Salvia		
	130 Grigio Ardesia	230 Cacao	410 Verde Smeraldo		
	140 Nero Grafite	232 Cuoio	420 Verde Prato		
145 Nero Carbonio	235 Caffè	430 Verde Pino			
Classification according to EN 13888	RG – Reactive grout for joints				
Classification as per EN 12004	R2T - Improved high-performance reactive vertical no-slip adhesive				
Customs code	35069190				
Shelf life	24 months in original packaging when stored in a dry place				

APPLICATION DATA

Waiting time for grouting	<p>Floor application</p> <ul style="list-style-type: none"> • with normal-setting adhesive: 24 hours • with fast-setting adhesive: 4 hours • with mortar: 7-10 days <p>Wall application</p> <ul style="list-style-type: none"> • with normal-setting adhesive: 24 hours • with fast-setting adhesive: 4 hours • with mortar: 2-3 days
Mixing ratios	<p>Component A: 93.7 parts by weight Component B: 6.3 parts by weight The two components are pre-measured in their relevant packaging</p>
Consistency of mix	Thixotropic paste
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
Application temperatures 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	From 1 to 15 mm

Technical Data Sheet – Starlike Evo



Grouts



PERFORMANCE

Shear adhesion strength (EN 12003)	Initial After water immersion After thermal shock	≥ 2 N/mm ² ≥ 2 N/mm ² ≥ 2 N/mm ²
Open time (EN 1346)	≥ 0.5 N/mm ² after 20 minutes	
Vertical slip resistance (EN 1308)	≤ 0.5 mm	
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 AS GROUT kg/m²

Tiles (mm)	Joints (mm)						
	1.5	2	3	4	5	7	10
10x10x4	1.86	2.48					
10x10x10	4.85	6.20					
15x15x4	1.24	1.65					
15x15x10	3.10	4.13					
15x30x8	1.86	2.50					
20x20x3	0.70	0.93	1.40	1.86	2.33	3.26	4.65
23x23x8	1.62	2.16	3.2	4.3	5.39	7.55	10.78
25x25x10	1.86	2.48	3.7	5	6.20	8.68	12.40
50x50x4	0.37	0.50	0.7	1	1.24	1.74	2.48
50x50x10	0.93	1.24	1.9	2.5	3.10	4.35	6.20
100x100x8	0.37	0.50	0.74	0.99	1.24	1.74	2.48
125x240x12	0.34	0.45	0.68	0.91	1.13	1.58	2.26
150x150x6	0.18	0.24	0.36	0.48	0.61	0.85	1.21
150x150x8	0.25	0.33	0.50	0.66	0.83	1.16	1.65
200x200x8	0.19	0.25	0.37	0.50	0.62	0.87	1.24
250x330x8	0.13	0.17	0.26	0.35	0.44	0.61	0.87
300x300x8	0.12	0.17	0.25	0.33	0.41	0.58	0.82
300x600x10	0.12	0.16	0.23	0.31	0.39	0.54	0.78
400x400x10	0.12	0.16	0.23	0.31	0.39	0.54	0.78
450x450x10	0.10	0.14	0.21	0.27	0.34	0.48	0.68
600x600x10	0.08	0.10	0.15	0.20	0.26	0.36	0.51

CONSUMPTION AS ADHESIVE

Trowel notch (mm)	Consumption (kg/m ²)
2	1.1
3.5	1.6
8	3
10	3.5

Technical Data Sheet – Starlike Evo



Grouts



CHEMICAL RESISTANCE TABLE

(The table shown is a summary of the determination of chemical resistance carried out according to standard UNI EN 12808-1)

CHEMICAL RESISTANCE OF GROUTED CERAMIC TILING WITH Starlike® EVO - ENVIRONMENT OF USE: INDUSTRIAL FLOORING

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	●	●	●	●	●
		2.5	●	●	●	●	●
	Lactic acid	5	●	●	●	●	●
		10	●	●	●	●	●
	Nitric acid	25	●	●	●	●*	●
		50	●	●	●	●	●
	Pure Oleic acid	-	●	●	●	●	●
		1.5	●	●	●	●	●
	Sulphuric acid	50	●	●	●	●	●
		96	●	●	●	●	●
	10	●	●	●	●	●	
Alkalis	Ammonia in solution	25	●	●	●	●	●
	Caustic soda	50	●	●	●	●	●
	Sodium hypochlorite in solution	>10	●	●	●	●	●
	Conc. Active Cl		●	●	●	●	●
	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

Technical Data Sheet – Crystal Evo

LITOKOL®

Grouts

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, paneling etc., the mosaic tiles must be bonded with white adhesives such as Litoplus K55 (cementitious adhesive in class C2TE) or Litolastic 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

Technical Data Sheet — Crystal Evo

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Grouts

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.

Technical Data Sheet – Crystal Evo

LITOKOL®

Grouts



IDENTIFICATION DATA

Appearance	Component A: translucent paste Component B: thick liquid
Colour	Crystal 700
Customs code	35089190
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)		
		1	2	3
	mm 10x10x4	1,4		
mm 15x15x4			1,2	
mm 15x15x6			1,8	
mm 15x15x8			2,4	3,5
mm 15x15x10			2,7	
mm 20x20x4			1	
mm 20x20x6			2	3
mm 25x25x4			0,85	
mm 25x25x6			1,3	
mm 25x25x8			1,7	
Mosaicci artistici Artistic mosaics Mosaïques artistiques Künstlerische Mosaiken Mosaicos artísticos			4 mm	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.

Technical Data Sheet – Crystal Evo



Grouts



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 GROUDED 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		●*	●*	●*	●*	●*
		10 vol	●	●	●	●	●
Hydrogen peroxide	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.

Sheet no. 317

Revision no. 7

Date: August 2019

Technical Data Sheet – ColorCrystal Evo

LITOKOL

Grouts

Starlike® ColorCrystal EVO

TWO-COMPONENT ACID-RESISTANT COLOURED TRANSLUCENT EPOXY GROUT FOR GROUTING ALL TYPES OF 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.
- Consistent and stable colours over time.
- High mechanical strength.
- Waterproof.
- Total absence of cracking or crazing after hardening.
- Excellent chemical resistance.
- Unlike other epoxy grouts on the market, the Starlike® ColorCrystal EVO catalyst (component B) is labelled only as an irritant. It is neither corrosive nor hazardous for the environment.
- Starlike® ColorCrystal 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 ^{PLWS} according to the EMICODE protocol.
- Contains ≥ 50% of recycled material.

EN 13888 CLASSIFICATION:

Class RG – Reactive grout

Packaging

2,5 kg plastic bucket - 437,5 kg EUR pallet

FIELDS OF APPLICATION

While Starlike® Crystal EVO is used exclusively to grout clear or artistic vitreous mosaics, with Starlike® ColorCrystal EVO it is possible, after having identified the best matching colours, to obtain "tone-on-tone" grouting even in the case of non-transparent mosaic tiles, thus further enhancing the value of the mosaic itself.

The range of Starlike® ColorCrystal EVO colours has been designed to best adapt to a wide range of mosaic tiles.

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

- 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.
- Grouting of back-painted vitreous mosaics or tiles made from different materials, such as glass and ceramic.
- Development of decorative surfaces such as columns, tables, etc.

In the case of clear vitreous mosaics, it is possible to develop backlit interior walls made of clear substrates in glass or plexiglass. In this case, bonding will be done with a suitable transparent adhesive in tubes.

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

Technical Data Sheet — ColorCrystal Evo

LITOKOL®

Grouts

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 ideal temperature for application is between +18 and +23°C.

In these conditions the product presents as a smooth mortar that's easy to work with a pot life of about 1 hour. It is set to light foot traffic after 24 hours. 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. At temperatures between +8 and +10°C, the product is more consistent 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.

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 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® ColorCrystal 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.

SAFETY INFORMATION

Consult the product safety data sheets, available on request.

PRODUCT FOR PROFESSIONAL USE.

ITEM SPECIFICATION

The decorative grouting of joints between vitreous mosaics normally 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® ColorCrystal EVO by Litokol S.p.a. Grouting will be smooth and compact, without any cracks, non-absorbent, uniform in colour, UV resistant and weatherproof.

Technical Data Sheet — ColorCrystal Evo

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IDENTIFICATION DATA

Appearance	Component A: coloured translucent paste Component B: thick liquid
Colours	Grigio Oslo 800, Verde Capri 810, Azzurro Taormina 820, Beige Havana 825, Rosa Kyoto 830
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) Plexiglas: Primer 1217 + OTTOCOL M501 transparent Glass: OTTOCOL M501 transparent
Recommended trowel	Steel 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 TABLES

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

Mosaici artistici Artistic mosaics Mosaïques artistiques Künstlerische Mosaiken Mosaicos artísticos	kg/m ²	mm	
		4	6
		4 mm	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® ColorCrystal EVO by Litokol S.p.a. Grouting will be smooth and compact, without any cracks, non-absorbent, uniform in colour, UV resistant and weatherproof.

Technical Data Sheet – ColorCrystal Evo

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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® ColorCrystal EVO

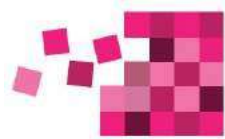
Group	Name	Conc. %	CONTINUOUS USE				INTERMITTENT USE
			24 hours	7 days	14 days	28 days	
Acids	Acetic acid	2.5	●	●	●*	●*	●
		5	●	●	●*	●*	●
	Hydrochloric acid	37	●	●*	●*	●*	●
	Citric acid	10	●	●	●	●	●
		2.5	●	●	●	●	●
	Lactic acid	5	●	●	●	●	●
		10	●	●	●	●*	●
	Nitric acid	25	●	●	●	●*	●
		50	●	●	●	●	●
	Pure Oleic acid	-	●	●	●	●	●
	Sulphuric acid	1.5	●	●	●	●	●
		50	●	●	●	●	●
Tartaric acid	96	●	●	●	●	●	
Alkalis	Tartaric acid	10	●	●	●	●	●
	Ammonia in solution	25	●	●	●	●	●
		50	●	●	●	●	●
	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		●*	●*	●*	●*	●*
		10 vol	●	●	●	●	●
Hydrogen peroxide	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.

Sheet no. 322
Revision no. 3
Date August 2019



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