

# MOSAICO.SG

DRESS UP WITH MOSAIC



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Instagram: [mosaicosg](https://www.instagram.com/mosaicosg) W: [www.mosaico.sg](http://www.mosaico.sg)

# 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

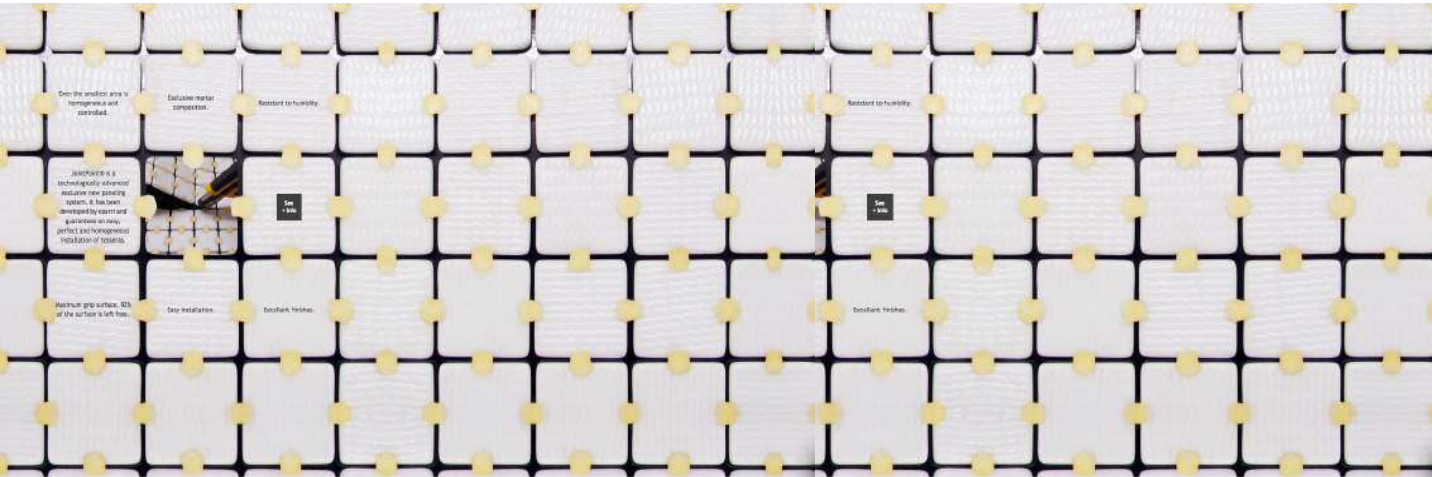


Metal  
Mosaics



## 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.

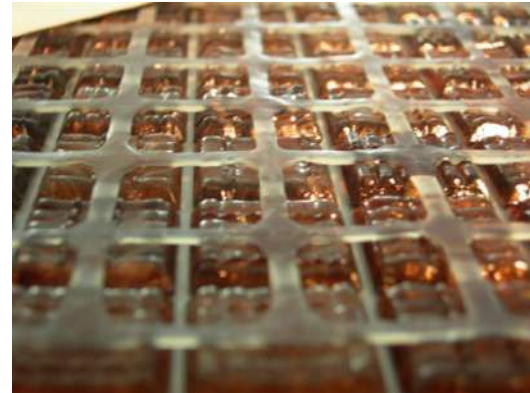




# MOSAICO.SG

## 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



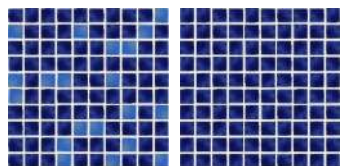
## Thomson Grand Condominium Swimming Pool

- Project Size: 2,834 sqm
- Mosaic Combination:

(2110 sqm)	Niebla 2505a 70%, Niebla 2503d 28%, Metal Aurum 2%
(258 sqm)	Niebla 2503d
(108 sqm)	Niebla 2505 20%, Niebla 2503 80%
(76 sqm)	Niebla 2505a 50%, Niebla 2503d 50%
(136 sqm)	Niebla 2505a 70%, Niebla 2503d 30% Niebla 2501b
(22 sqm)	Niebla 2505 antislip 70%, Niebla 2503 Antislip 30%

- Location: Sin Ming Walk 573916

TOP:2015







LEGEND:

- |                                    |                        |                              |
|------------------------------------|------------------------|------------------------------|
| 1. Floating Bridge                 | 8. Lounge Pool         | 11. Outdoor Drop Off/Arrival |
| 2. Waterway Pool                   | 9. Sundesk             | 12. Bamboo Garden            |
| 3. Waterslide                      | 10. Lap Pool           | 13. Sculpture Garden         |
| 4. Outdoor Clubhouse - The Terrace | 11. Reflexology Course | 14. Putting Green            |
| 5. Waterplay Pool                  | 12. Spa Pool           | 15. Meditation Court         |
| 6. Flowerbed Garden                | 13. Serenity Garden    | 16. Sculptured Wall          |
| 7. Sunset Deck                     | 14. Fragrance Garden   |                              |



Thomson Grand Condominium Swimming Pool





Thomson Grand Condominium  
Swimming Pool





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Lloyd SixtyFive

Swimming Pool

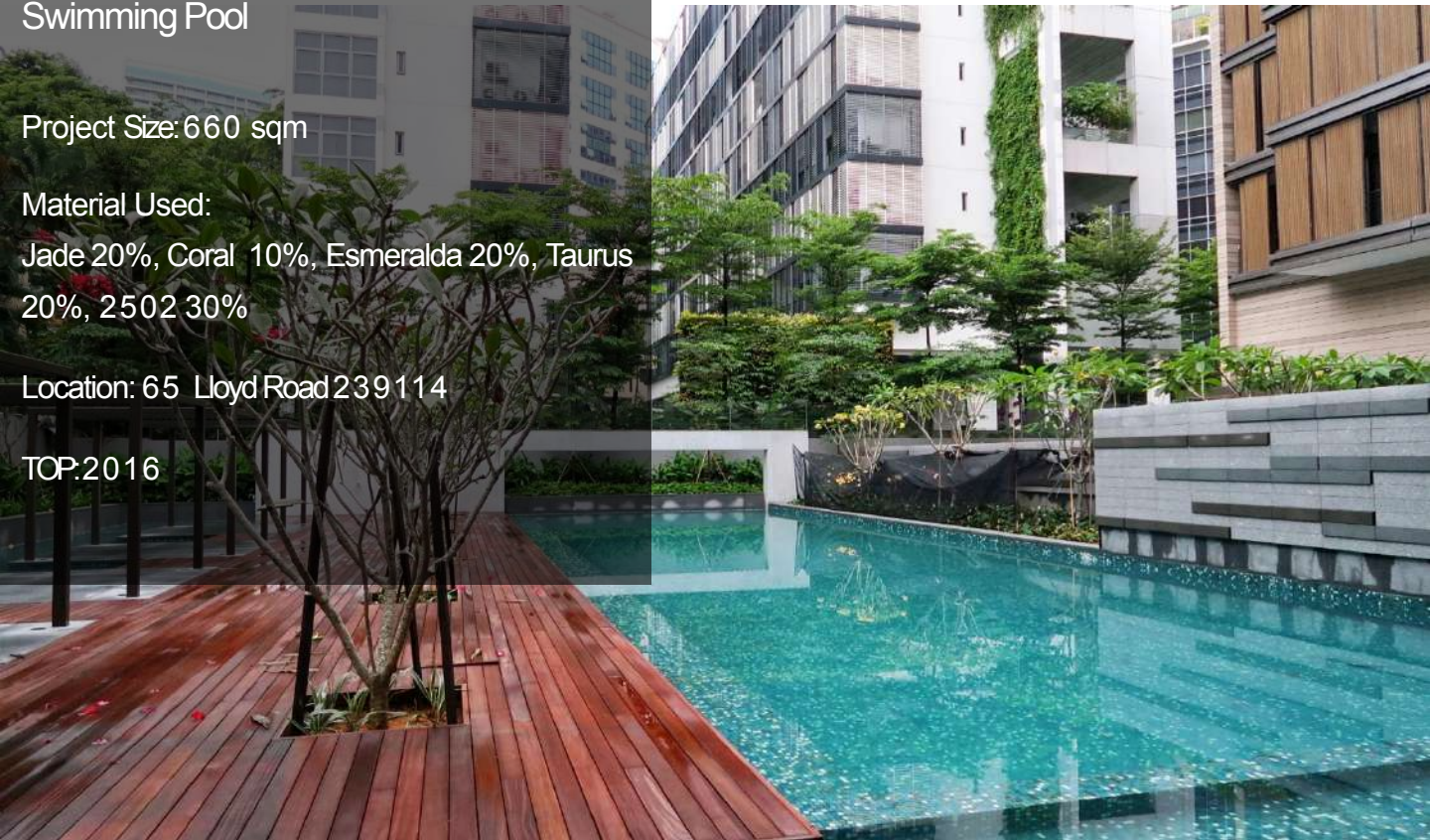
Project Size: 660 sqm

Material Used:

Jade 20%, Coral 10%, Esmeralda 20%, Taurus 20%, 2502 30%

Location: 65 Lloyd Road 239114

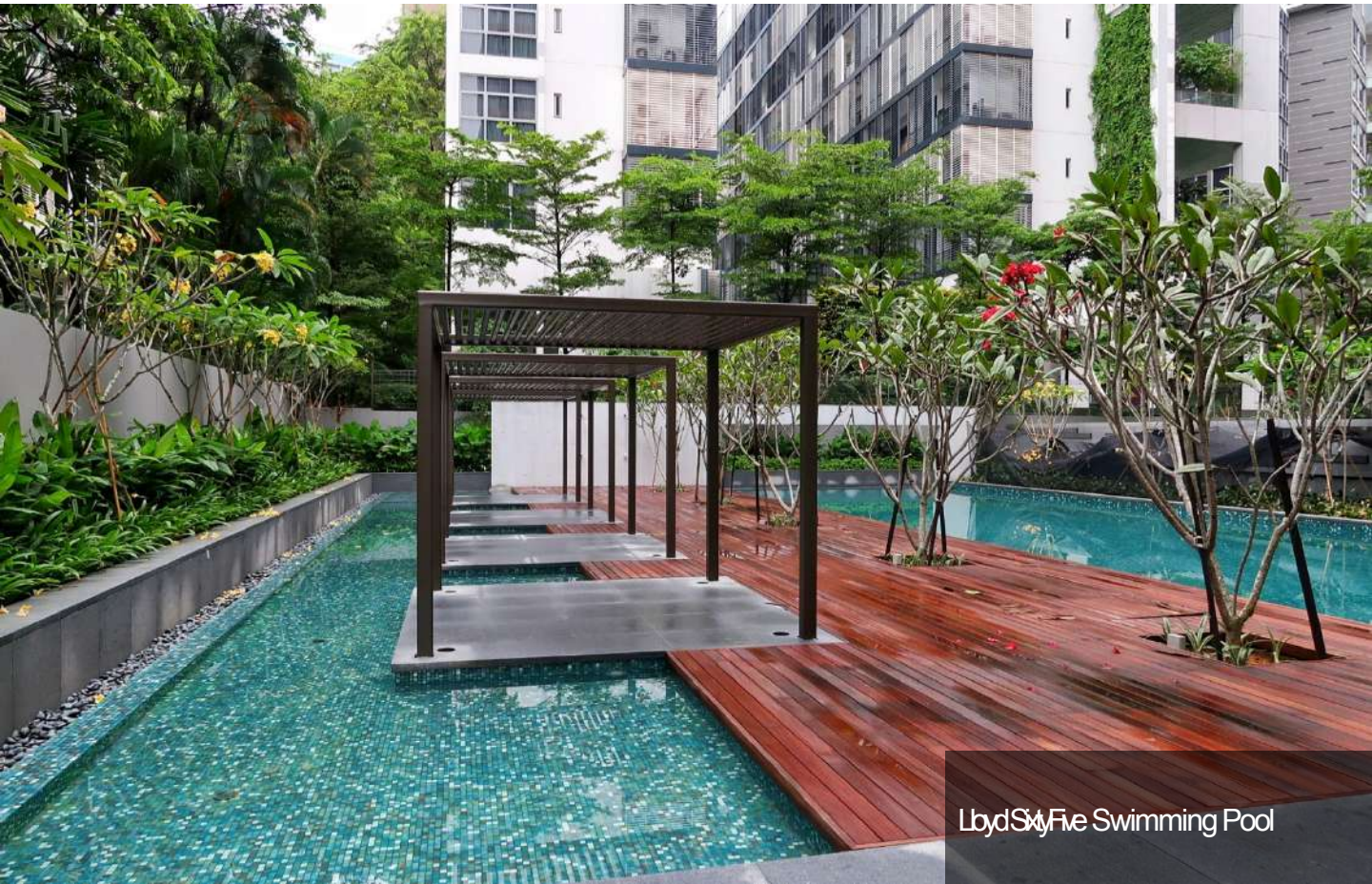
TOP:2016



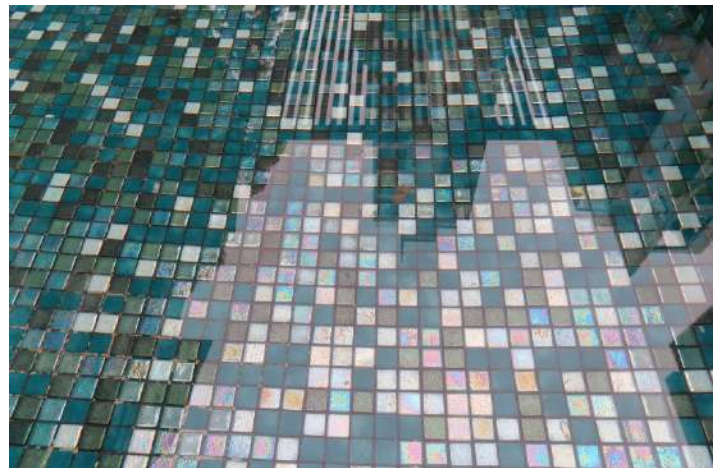


# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Lloyd Six Five Swimming Pool





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Stratum Condo

Swimming Pool

Project Size: 3,000 sqm Mosaic

Combination:

-(1,146sqm) Niebla

2508-60%, 2505-30%,

2503-10%

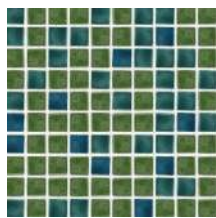
-(1,854sqm) Niebla

2585-60%, 2586-30%,

2502-10%

Location: 80 Elias Road, 519948

TOP:2016





# Job Reference

MOSAICO.SGPTE LTD Singapore project references





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Stratum Condo Swimming Pool





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## SANCTUARY GREEN

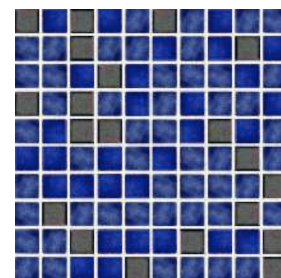
Upgrading Swimming Pool

Project Size: 1,900 sqm

Product Used: :

(1,870sqm) Niebla 2562-35%,2503-45%,Ebano -20%  
(30sqm) Niebla ANTI – 2562

Location: 189 Tanjong Rhu Rd, 436926





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Sanctuary Green Swimming Pool



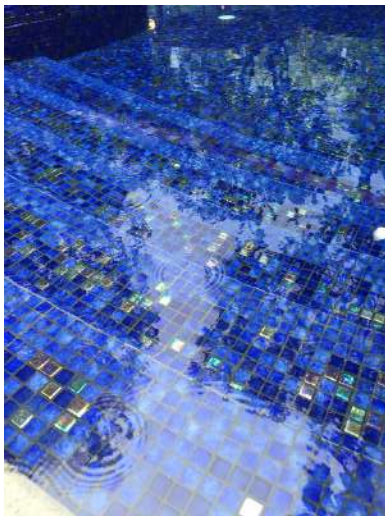


# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Sanctuary Green Swimming Pool





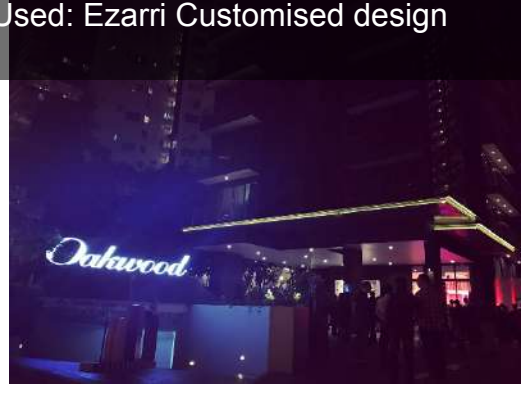
# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## OAKWOOD STUDIO

Product Used: Ezarri Customised design





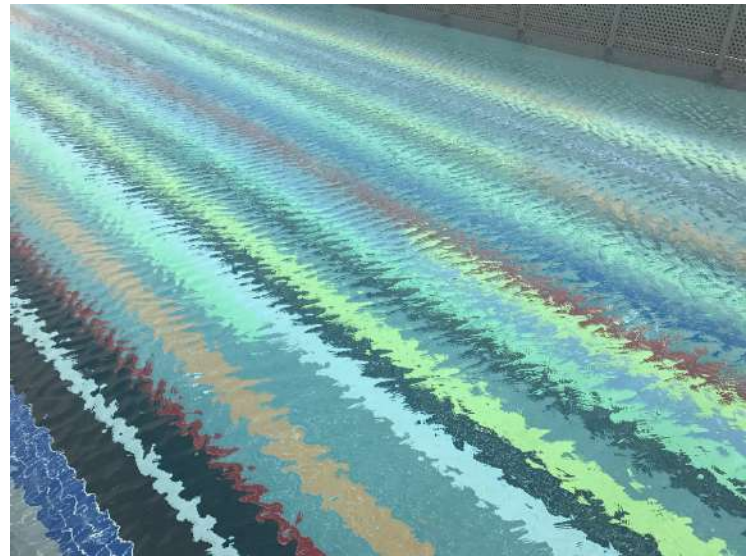
# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Park one suit @ Lorong 40

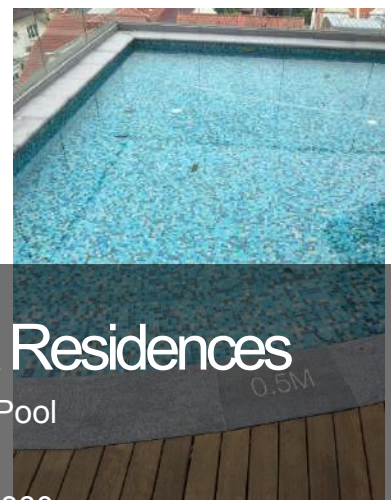
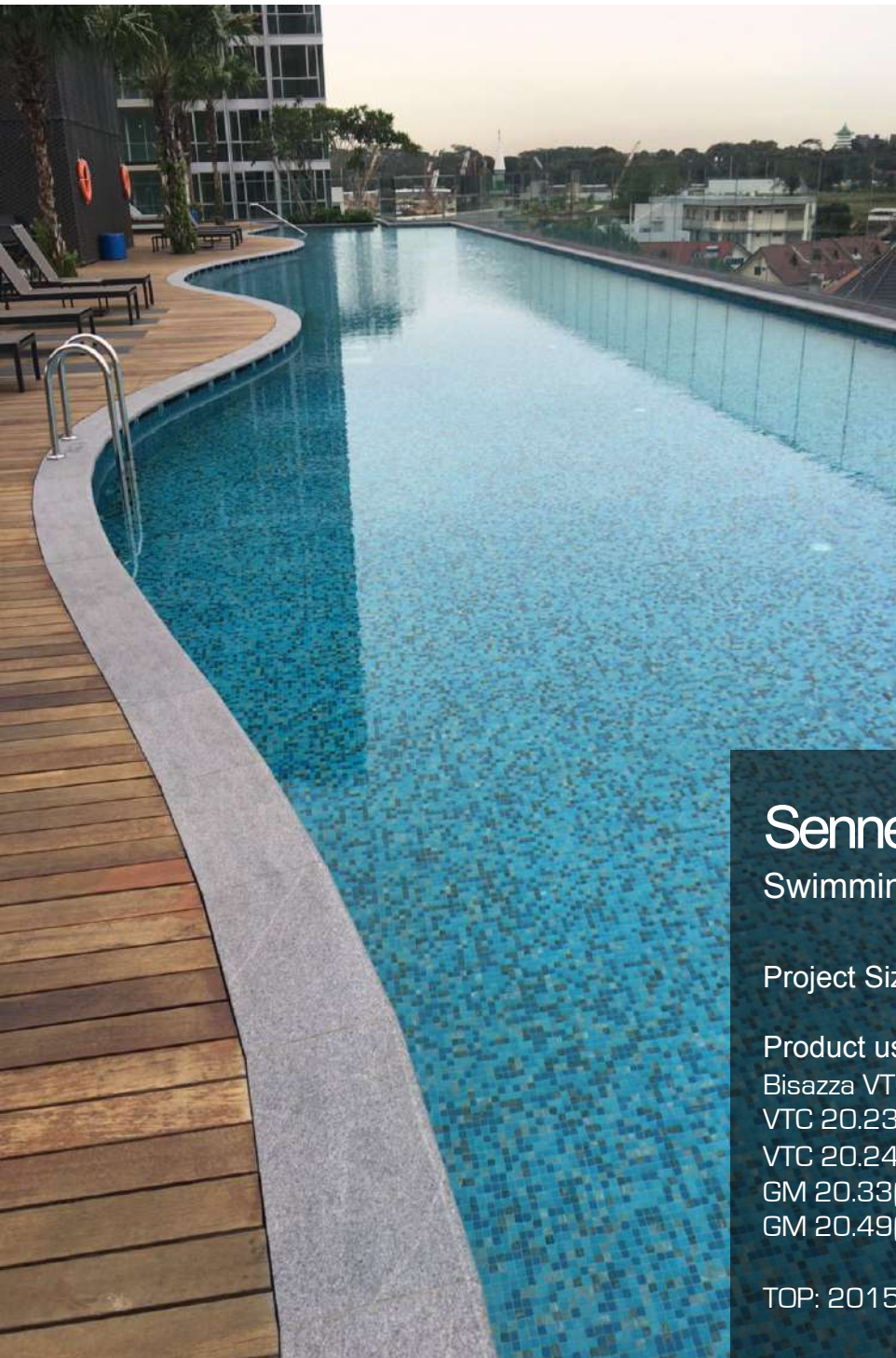
Product Used: Vogue Customised design





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Sennett Residences

Swimming Pool

Project Size: 380sqm

Product used: Bisazza customised mix

Bisazza VTC 20.61(20%)

VTC 20.23(30%)

VTC 20.24(20%)

GM 20.33(15%)

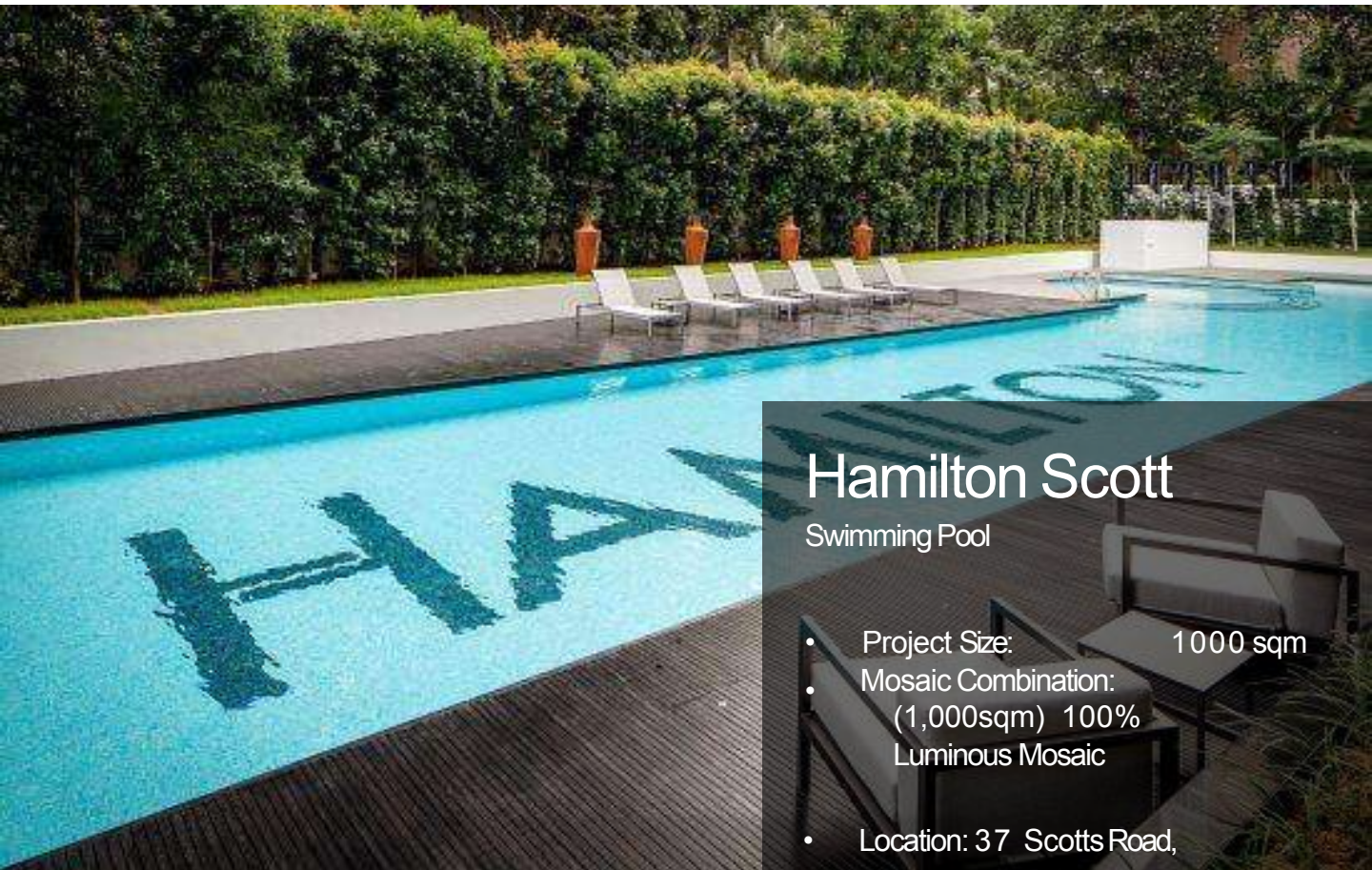
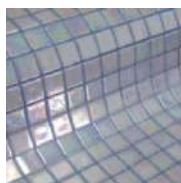
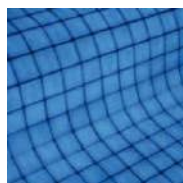
GM 20.49(15%)

TOP: 2015



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Hamilton Scott

Swimming Pool

- Project Size: 1000 sqm
- Mosaic Combination: (1,000sqm) 100% Luminous Mosaic
- Location: 37 Scotts Road, 228229
- TOP:2012



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



NTU Alumni Club

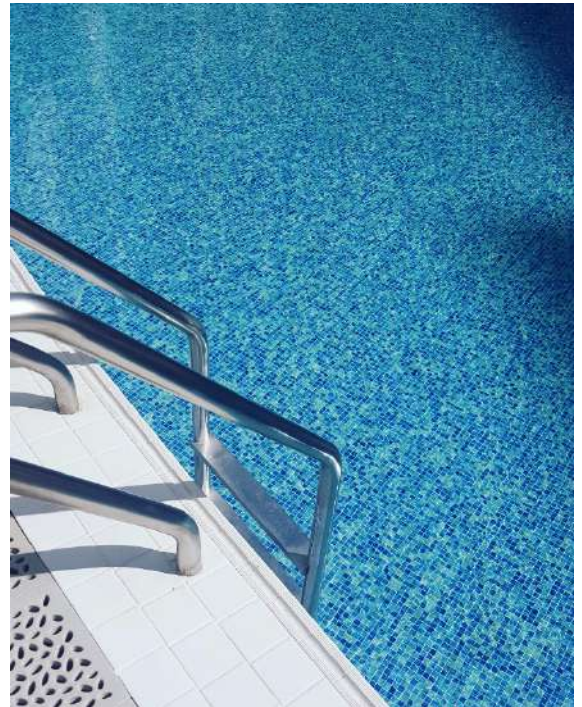
Product Used: Ezarri Custom Mix





# Job Reference

MOSAICO.SG PTE LTD Singapore project references



Costa Rhu

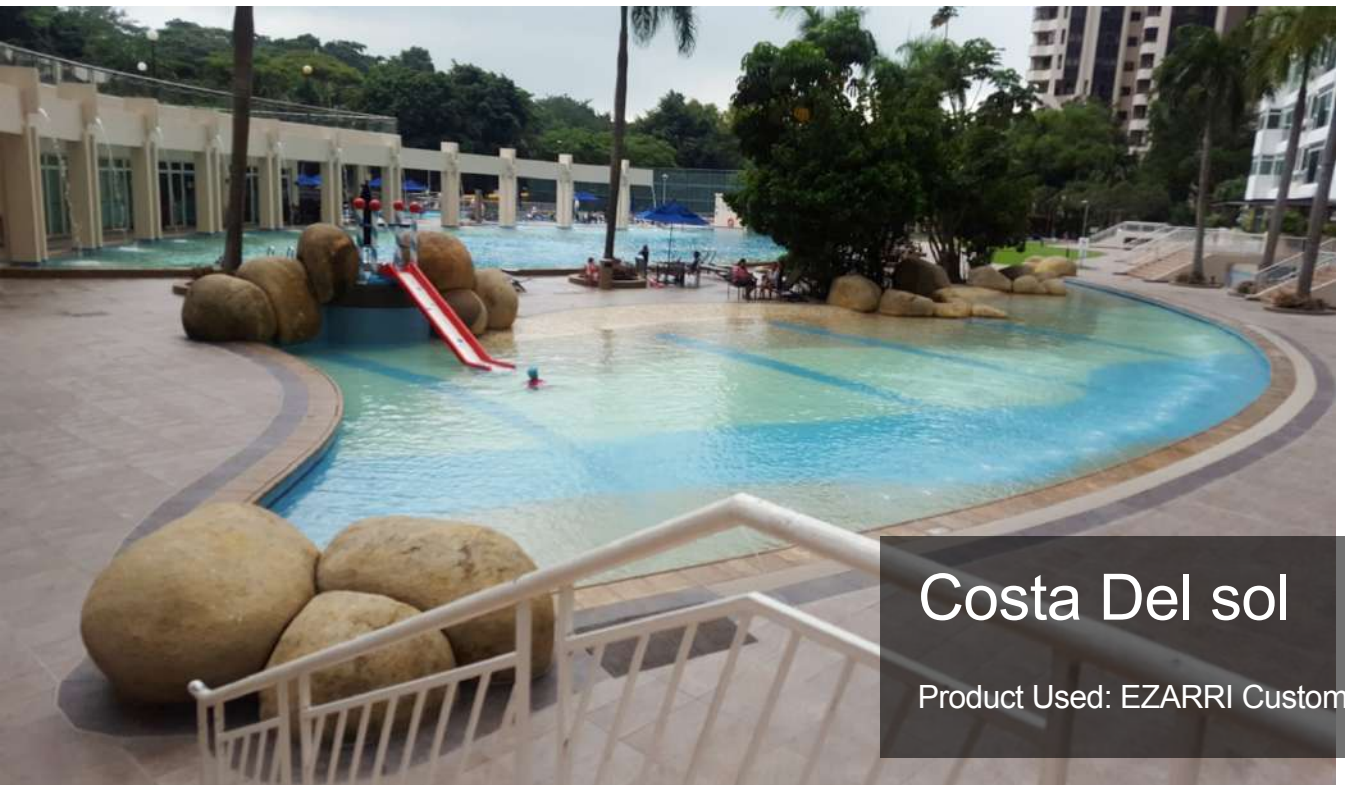
Product Used: ONX BlueStone





# Job Reference

MOSAICO.SG PTE LTD Singapore project references



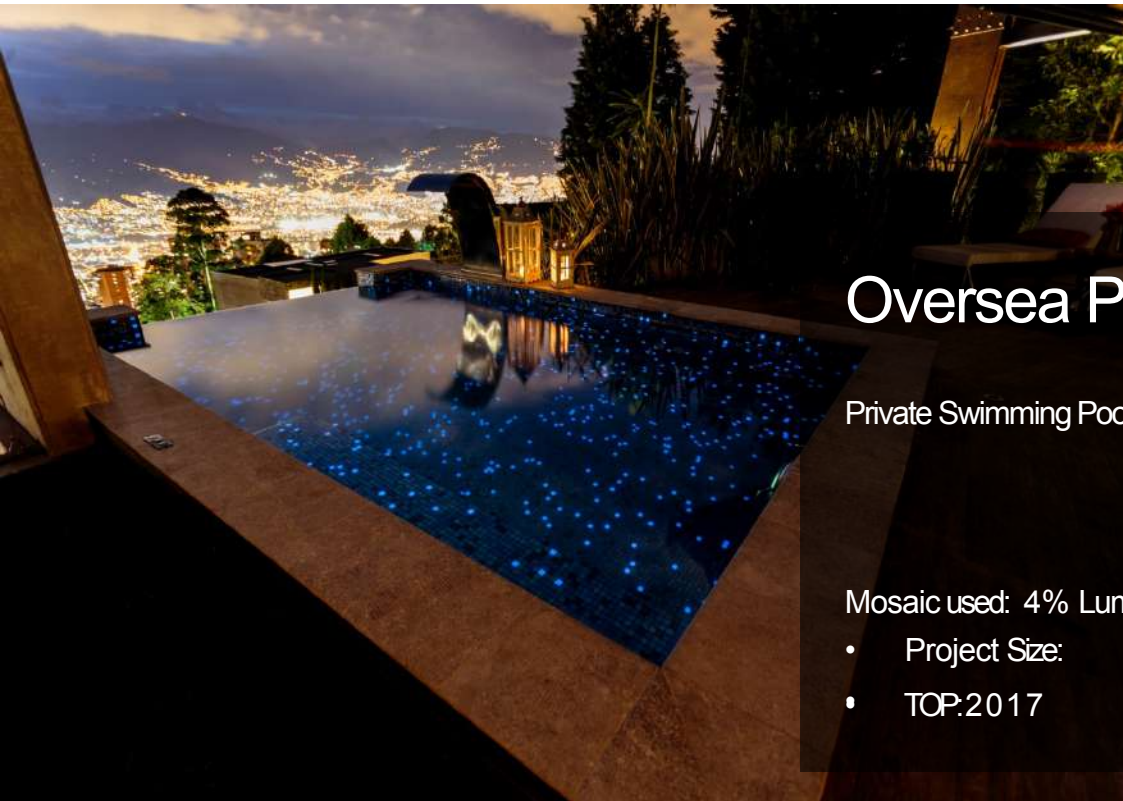
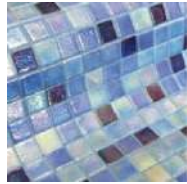
Costa Del sol

Product Used: EZARRI Custom Mix



# Job Reference

MOSAICO.SG PTE LTD Singapore project references



## Oversea Pool

Private Swimming Pool

Mosaic used: 4% Luminous tile

- Project Size: 1000 sqm
- TOP:2017



# Job Reference

MOSAICO.SGPTE LTD Singapore project references

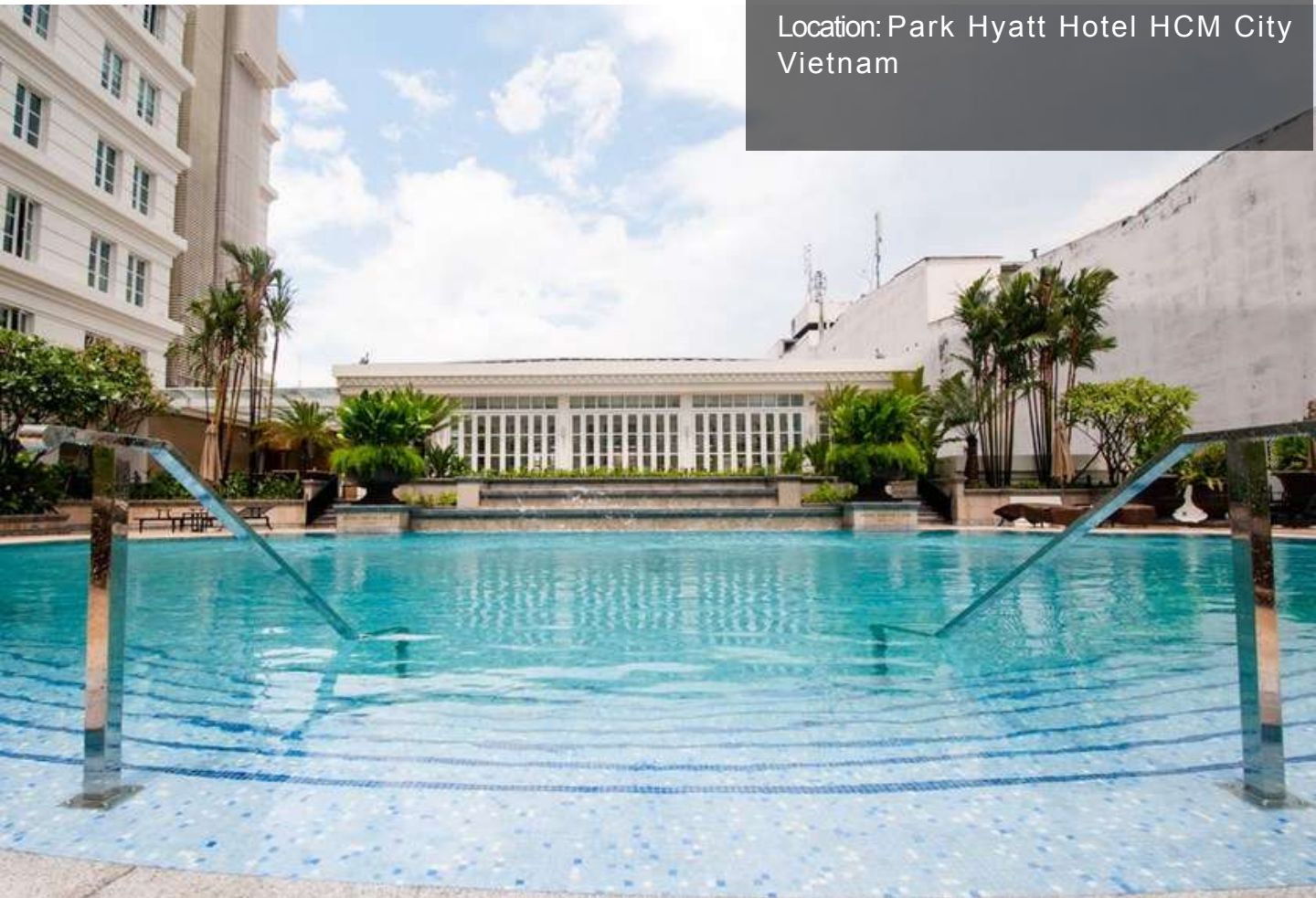


## Park Hyatt Hotel

Project Size: 500 sqm

Mosaic Combination: SICIS Customised Design

Location: Park Hyatt Hotel HCM City Vietnam





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Andrew Rd

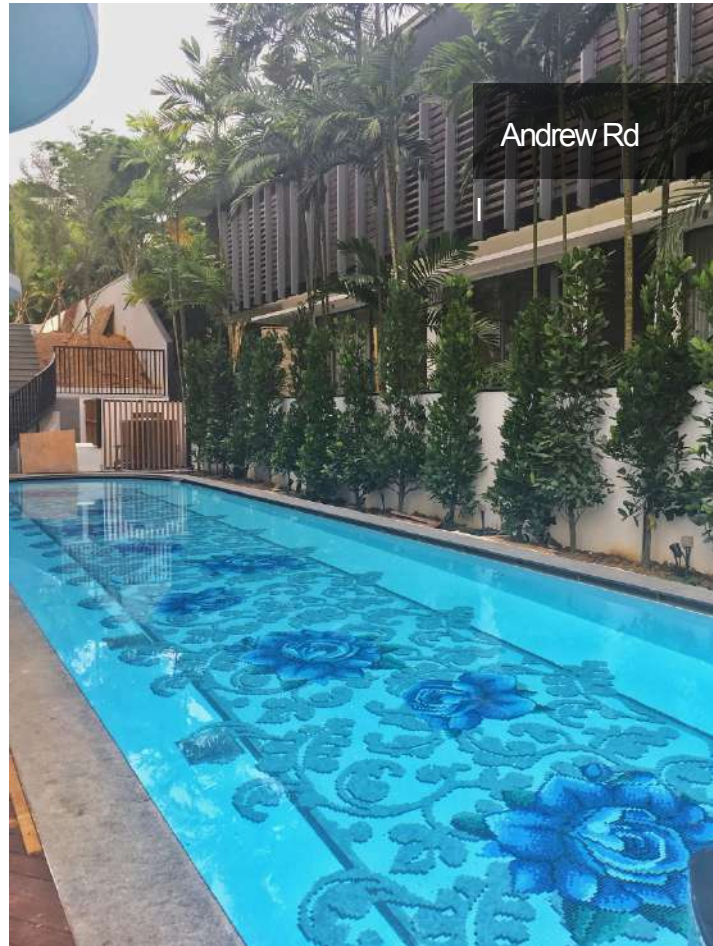
Mosaic Used: SICIS Customise Design





# Job Reference

MOSAICO.SGPTE LTD Singapore project references





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Dunbar Walk

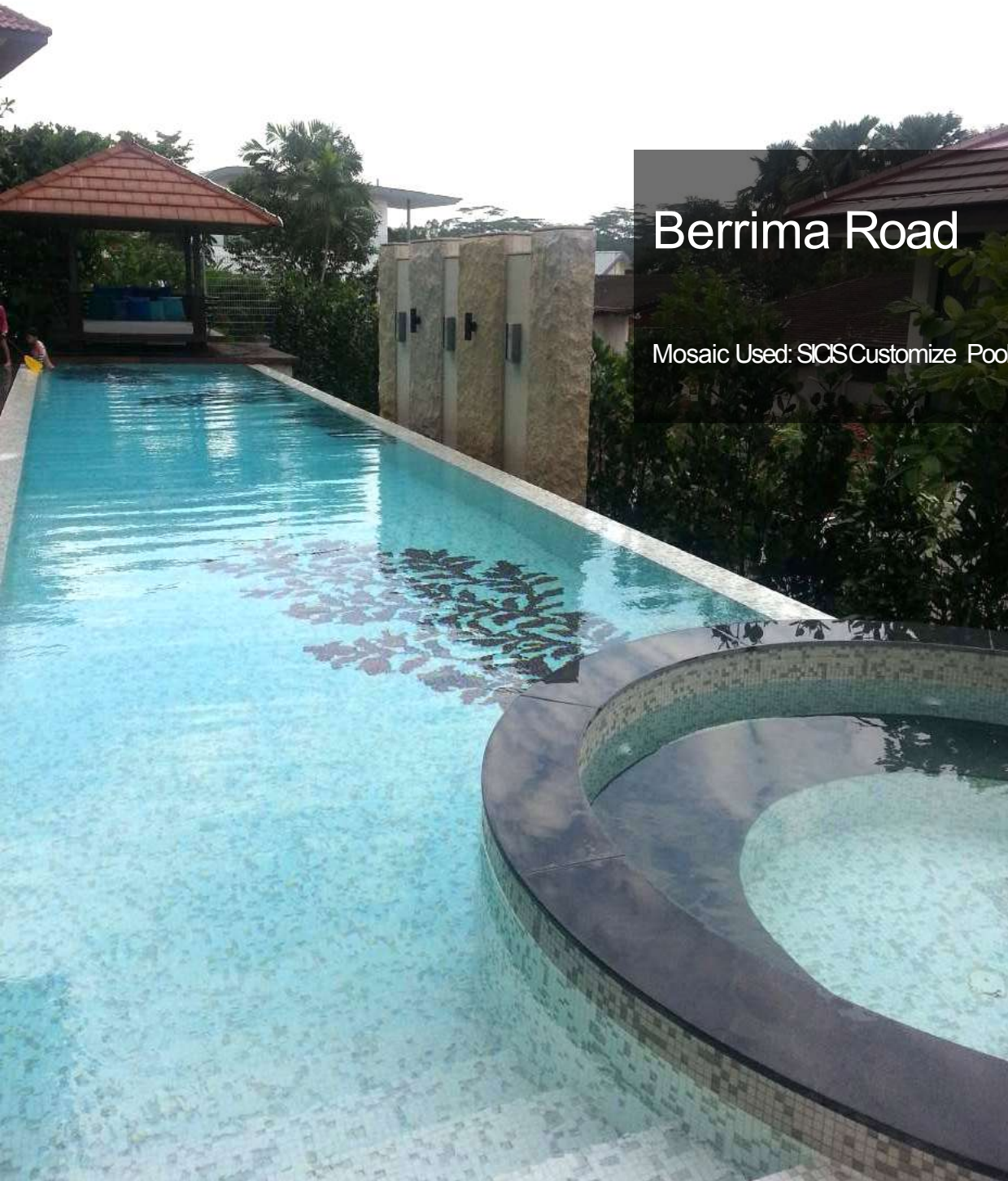
Mosaic Used: SICIS Neoglass





# Job Reference

MOSAICO.SG PTE LTD Singapore project references



Berrima Road

Mosaic Used: SICSCustomize Pool



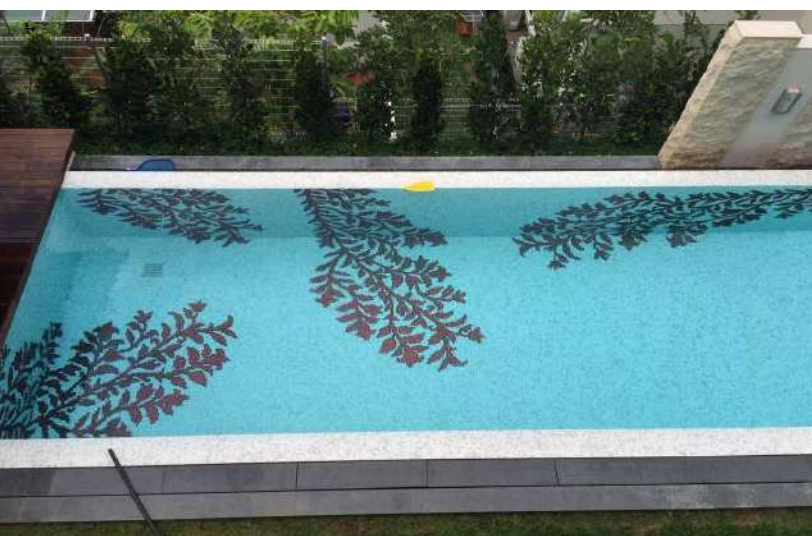
# Job Reference

MOSAICO.SG PTE LTD Singapore project references



## Berrima Road

Mosaic Used: SIC5 Customize Pool





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



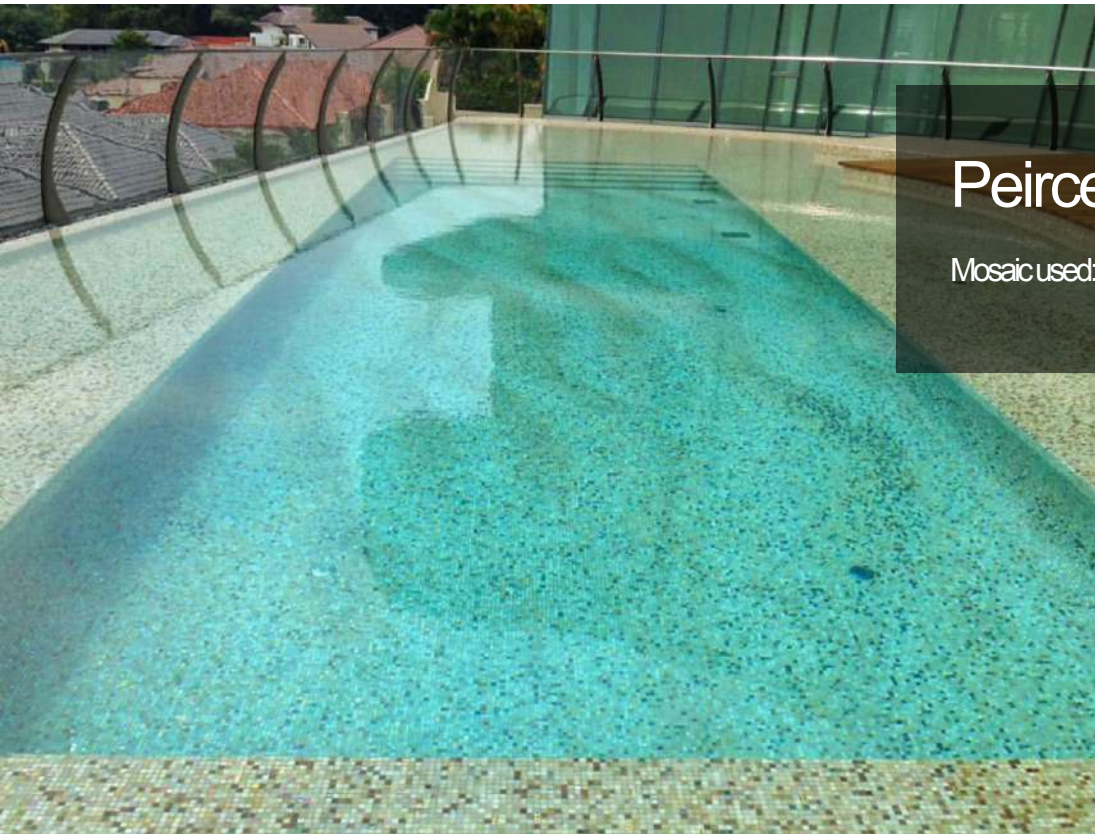
Berrima Road

Mosaic Used: 24K Gold Mosaic



# Job Reference

MOSAICO.SG PTE LTD Singapore project references



Peirce Hill

Mosaic used: SICIS Customised design





# Job Reference

MOSAICO.SG PTE LTD Singapore project references



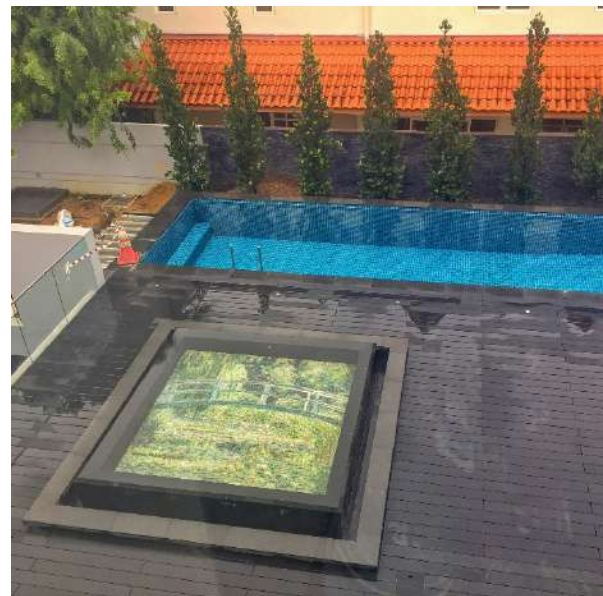
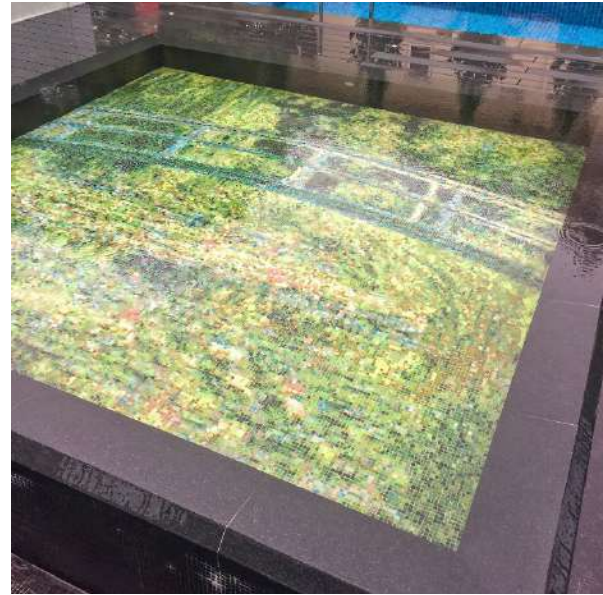
Delvey road

Mosaic used: SICIS Customised Design



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Goodman Road

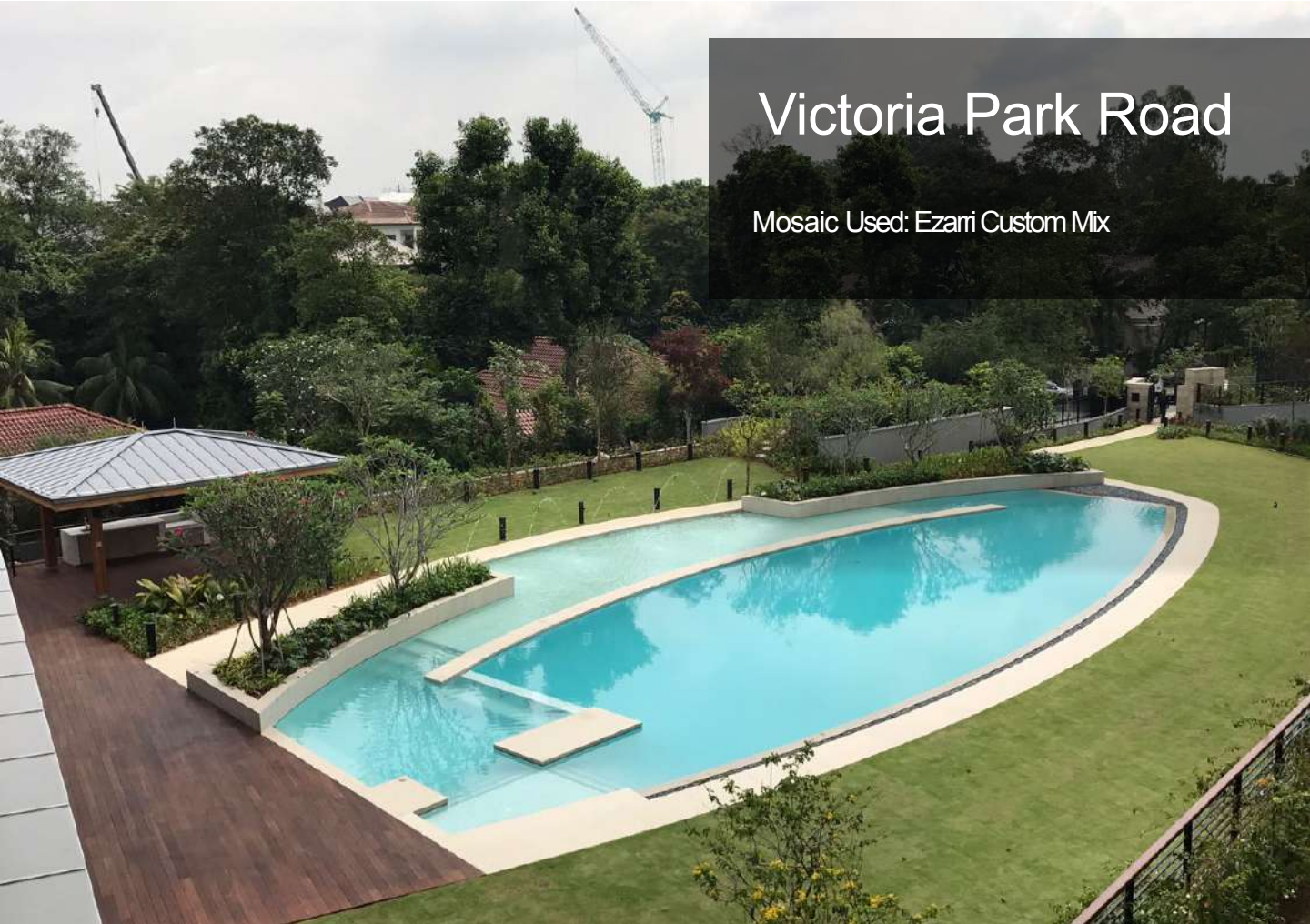
Mosaic used: Trend Custom design

(Claude Monet Water Lily)



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Victoria Park Road

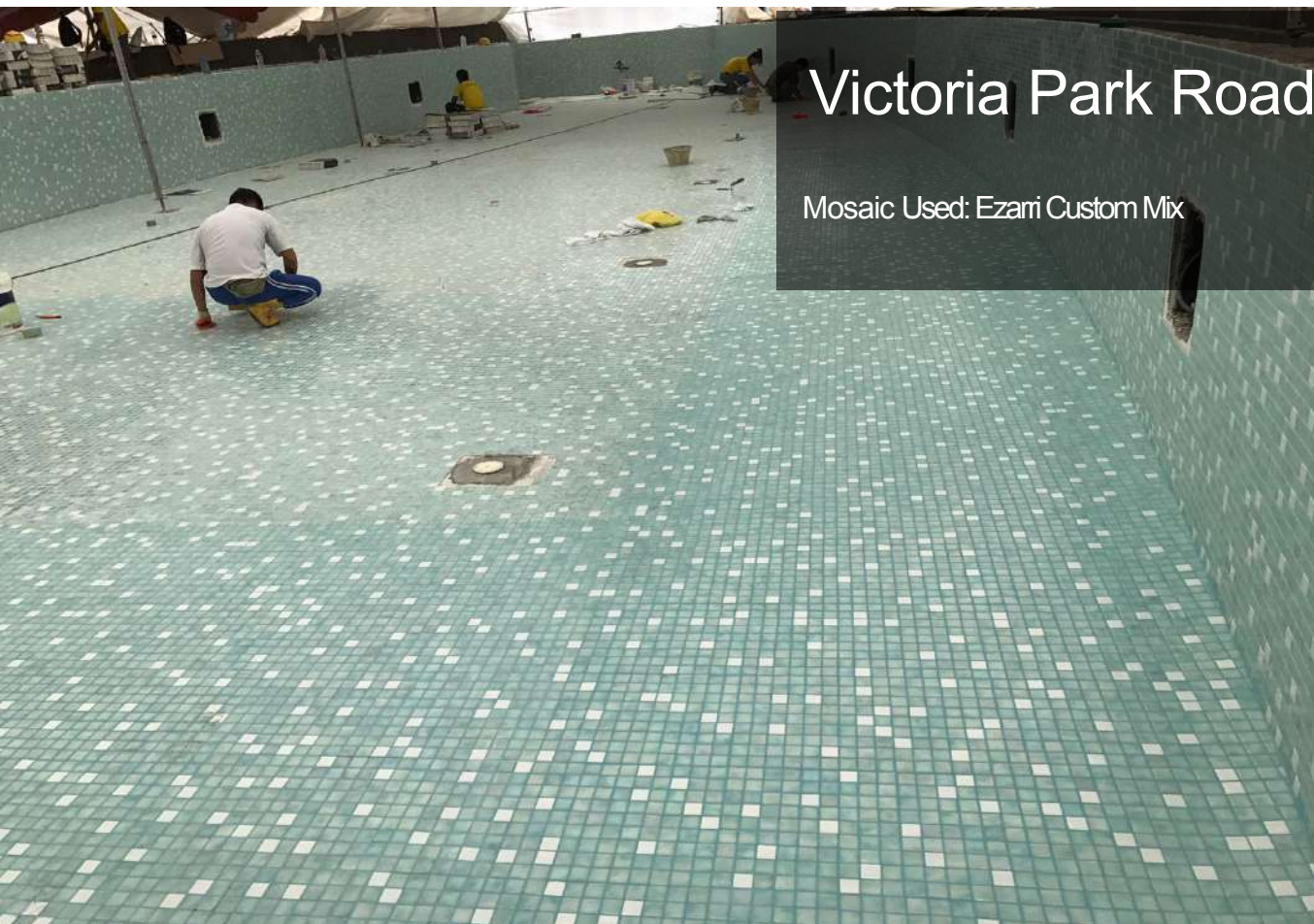
Mosaic Used: Ezari Custom Mix





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



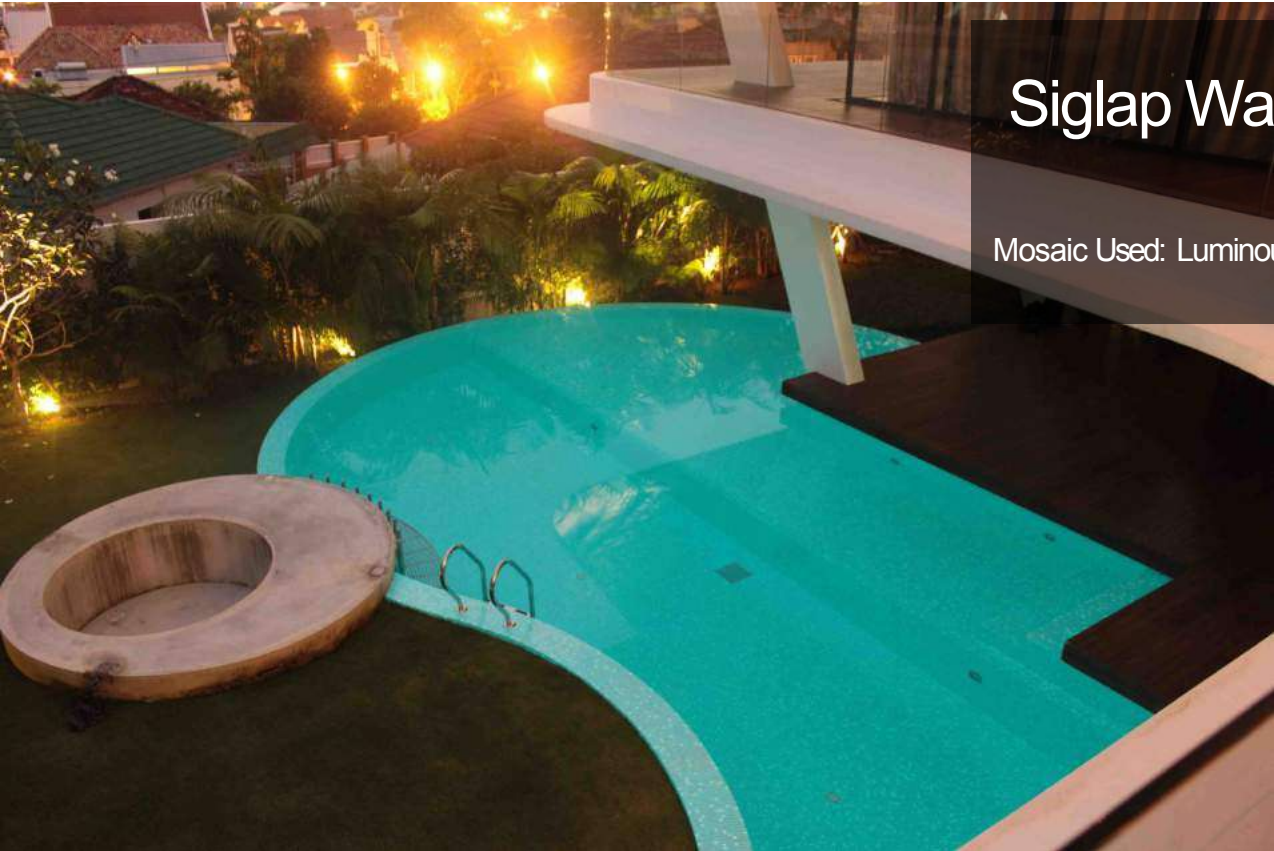
Victoria Park Road

Mosaic Used: Ezari Custom Mix



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Siglap Walk

Mosaic Used: Luminous Mosaic





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Chee Hoon Ave

Mosaic Used: TREND custommix  
(White Pool)





# Job Reference

MOSAICO.SGPTE LTD Singapore project references

## Swettenham Close

Mosaic Used: SICIS custom mix (White Pool)





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Swettenham Close

Mosaic Used: SICIS custom mix (White Pool)





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Pavilion Circle

Mosaic Used: EZARRI2577



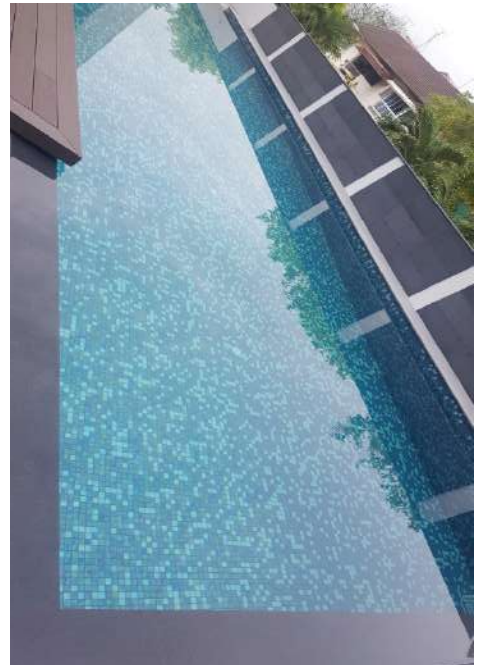


# Job Reference

MOSAICO.SGPTE LTD Singapore project references

## Crescent Road

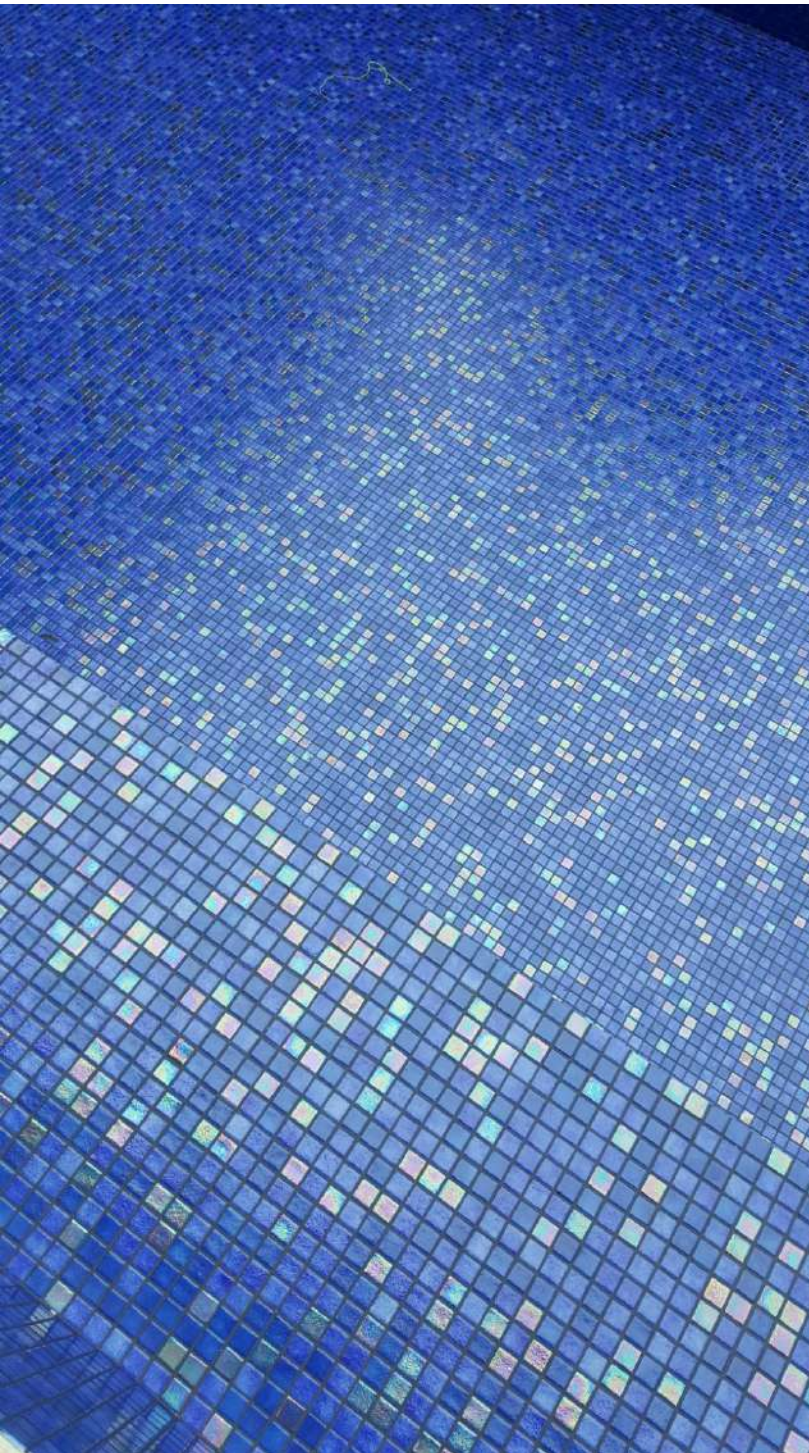
Mosaic Used: Ezari Custom Mix





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Jervois Road

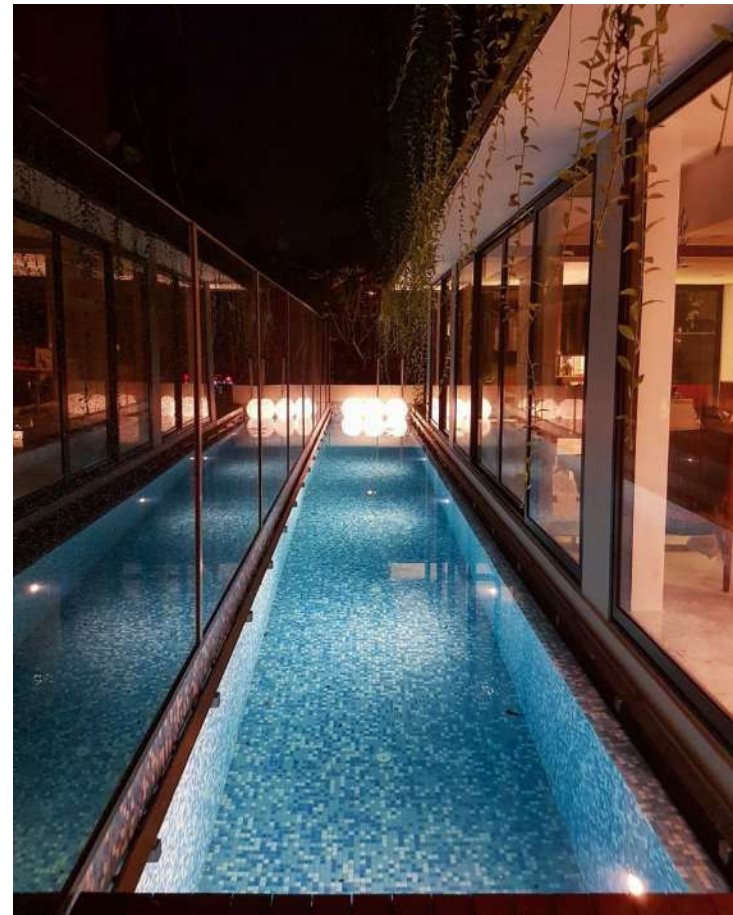
Mosaic Used: Ezari Custom Mix





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



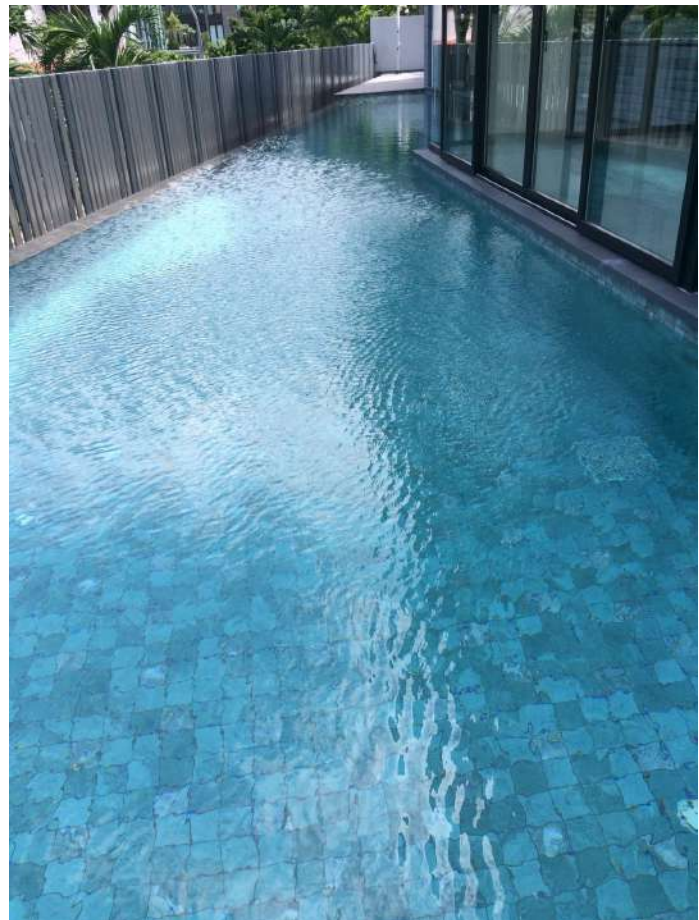
Jalan Batai

Mosaic used: Ezari Sky



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Goodman Road

Mosaic Used: COTTO Hideaway Alpine Green



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Tanglin Hill

Mosaic used: Ezari Customised Mix





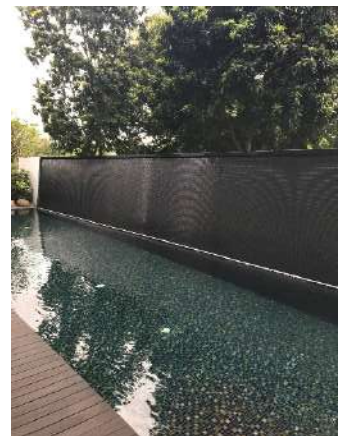
# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Jalan Bahasa

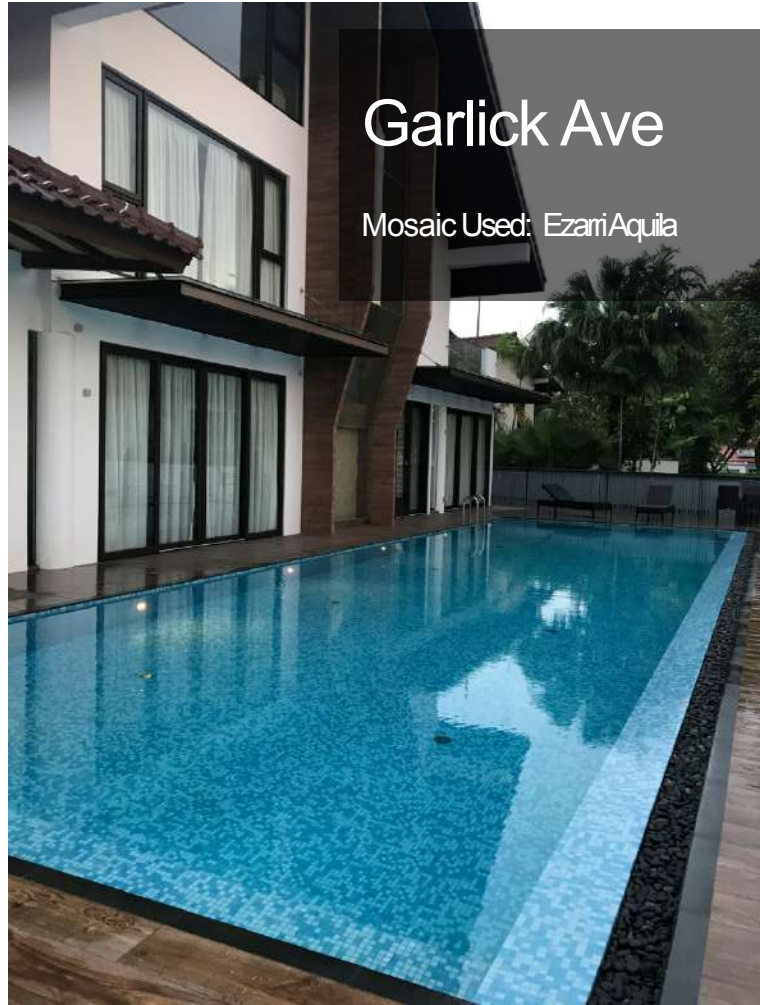
Mosaic Used: Ezari Eban





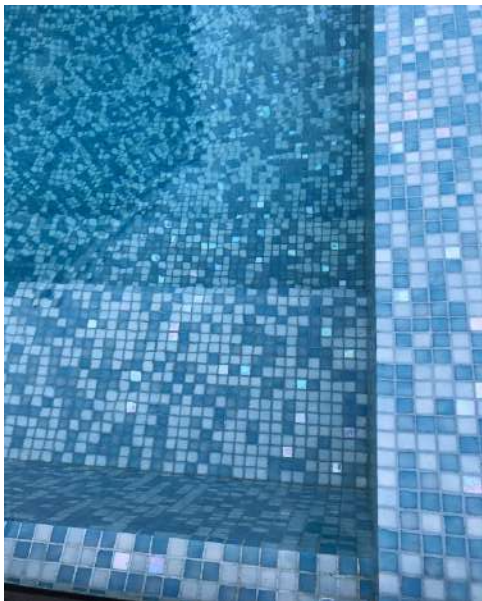
# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Garlick Ave

Mosaic Used: EzariAquila





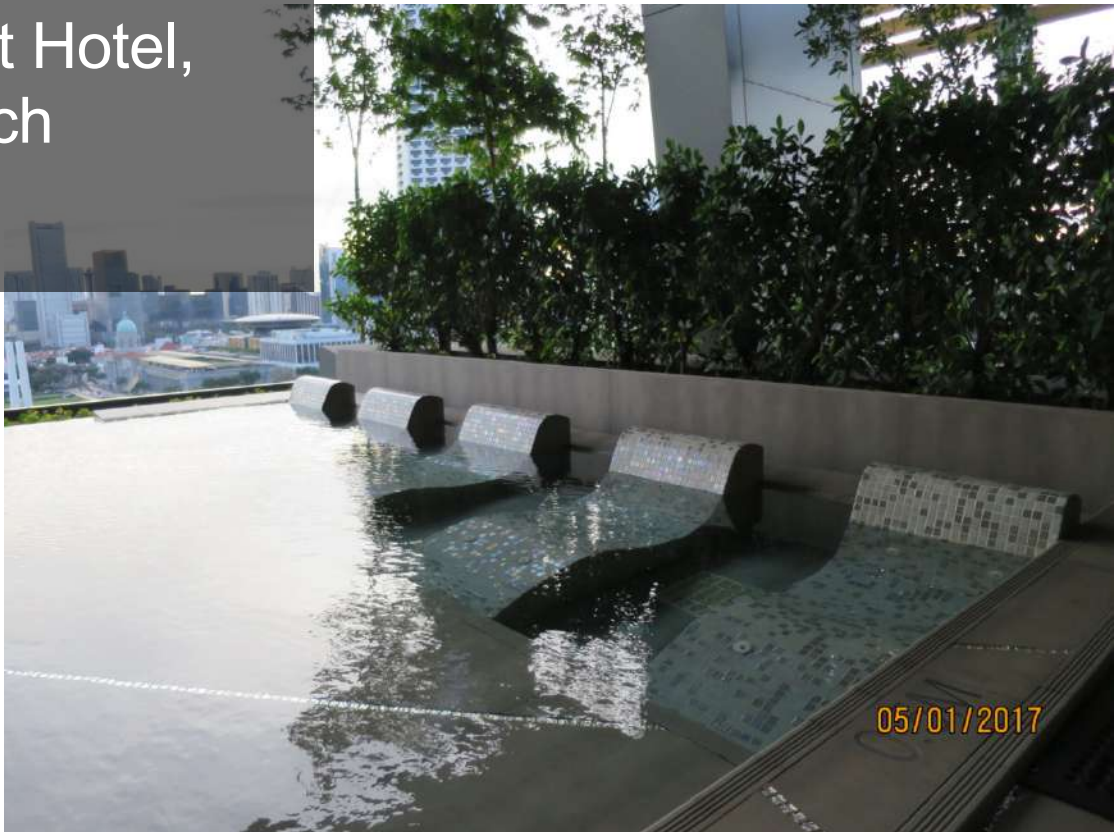
# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## JW Marriott Hotel, South Beach

Mosaic Used: EzariStone





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## South Beach Residence, Penthouse

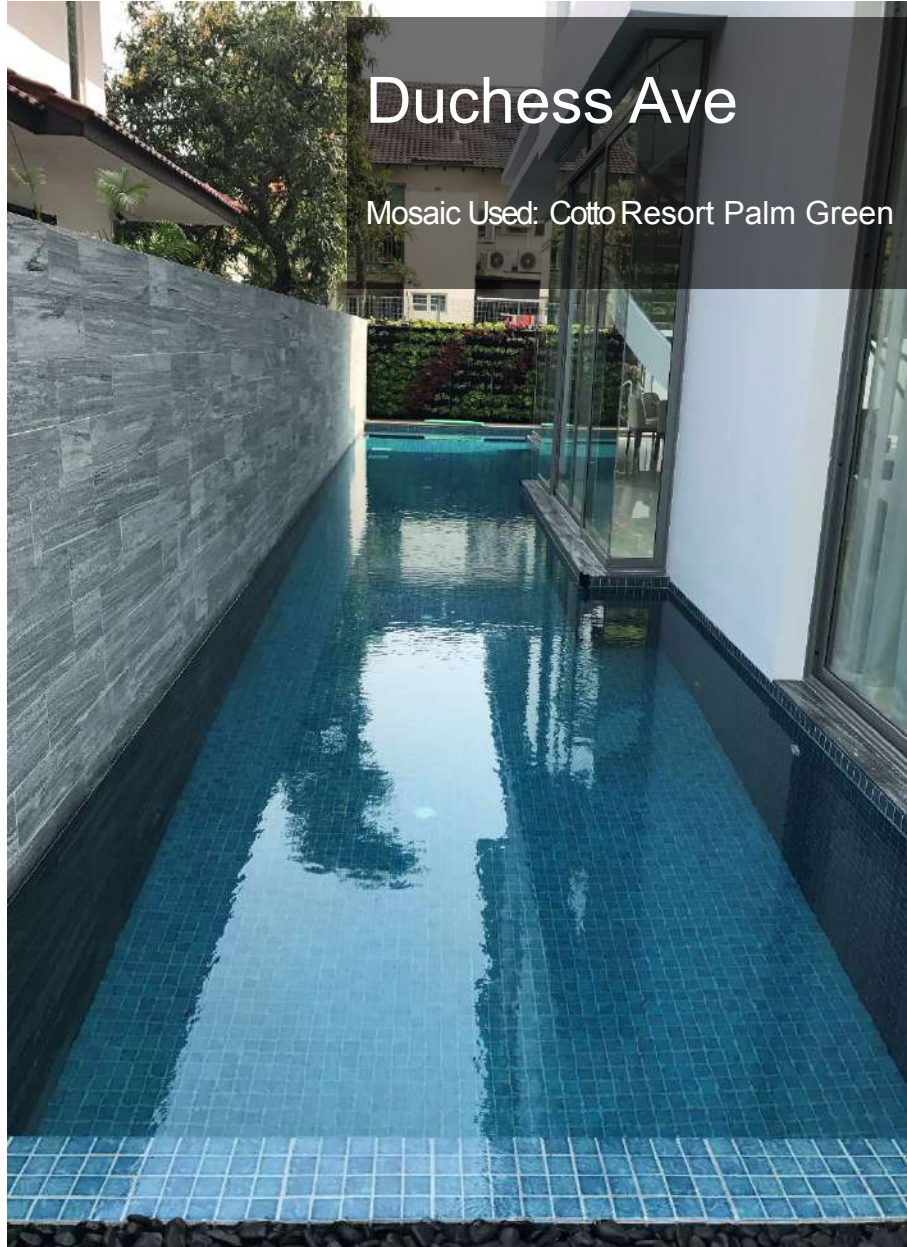
Mosaic Used: EzariSky





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Duchess Ave

Mosaic Used: Cotto Resort Palm Green



# Job Reference

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Toh Yi Rd

Mosaic Used: Ezari Ebaro





# Job Reference

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## Astrid Hill

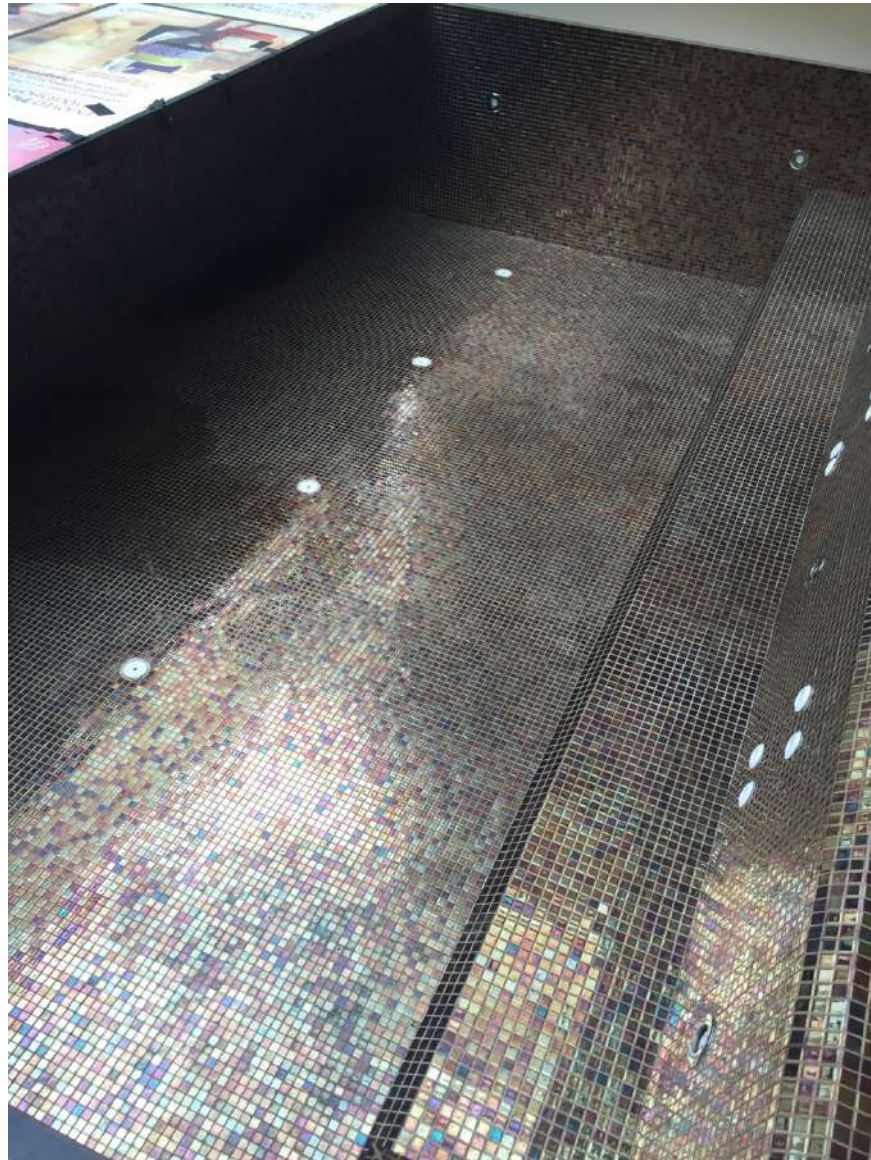
Mosaic used: Bisazza Iside





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Avon Rd

Mosaic used: Ezari Oxido



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



## Peirce Hill

Mosaic used: Vitrepur Moon 659





# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Parkroyal Collection Marina Bay Hotel  
(formerly Marina Mandarin)

Mosaic used: Ezari customized mix

MOSAICO.SG PTE LTD | 240A River Valley Road, Singapore 238297

T: +65 6836 3618 W: [www.mosaico.sg](http://www.mosaico.sg) E: [info@mosaico.sg](mailto:info@mosaico.sg)



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



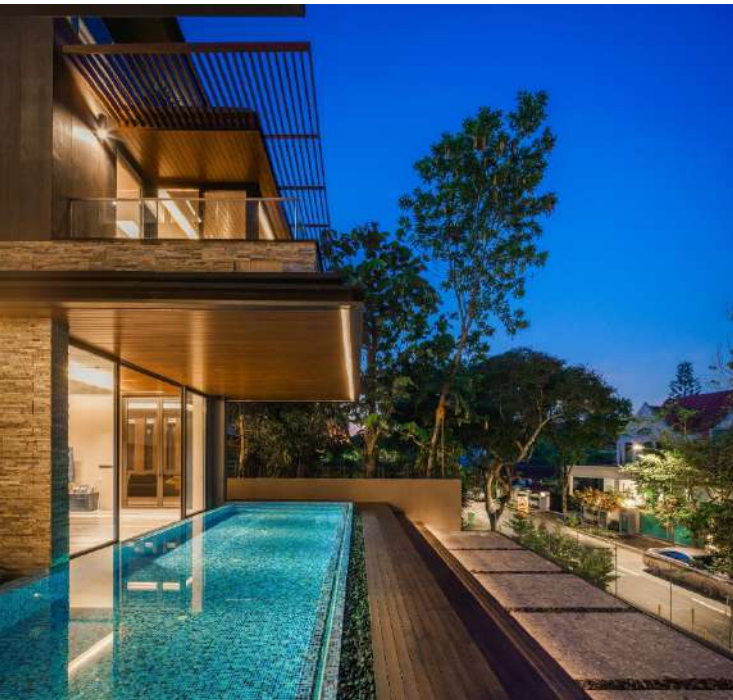
The Navian

Mosaic used: Ezari customized mix



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Trevose Crescent  
Mosaic used: Ezari Delphinus



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



**Chiselhurst Grove**  
Mosaic used: Ezari customized mix



# Job Reference

MOSAICO.SG PTE LTD Singapore project references



Watten Estate

Mosaic used: Onix Penta Forrest Blue



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



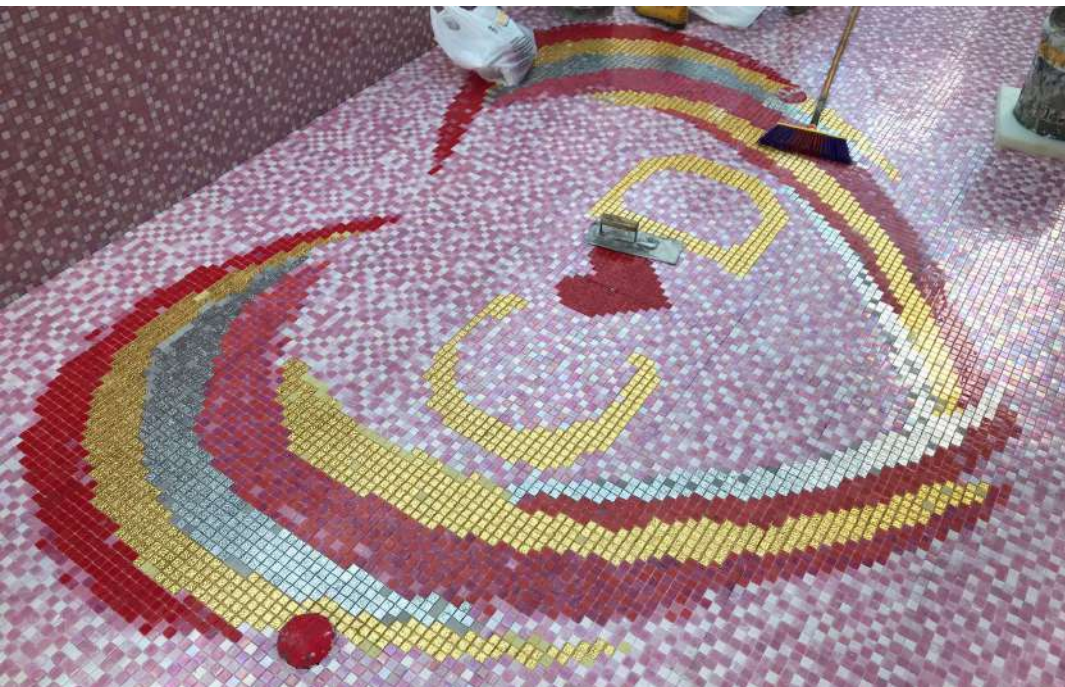
Saraca Road

Mosaic used: Onix Penta Arrecife Blue



# Job Reference

MOSAICO.SG PTE LTD Singapore project references



## Leedon Residence

Mosaic used:  
Bisazza  
Customized  
design



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Leeton Residence

Mosaic used: Bisazza Customized design



# Job Reference

MOSAICO.SGPTE LTD Singapore project references

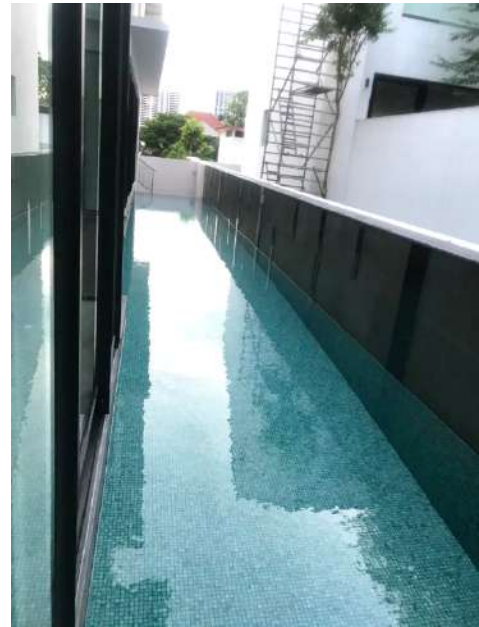


**Mount Echo Park**  
Mosaic used: Ezari customized mix



# Job Reference

MOSAICO.SGPTE LTD Singapore project references

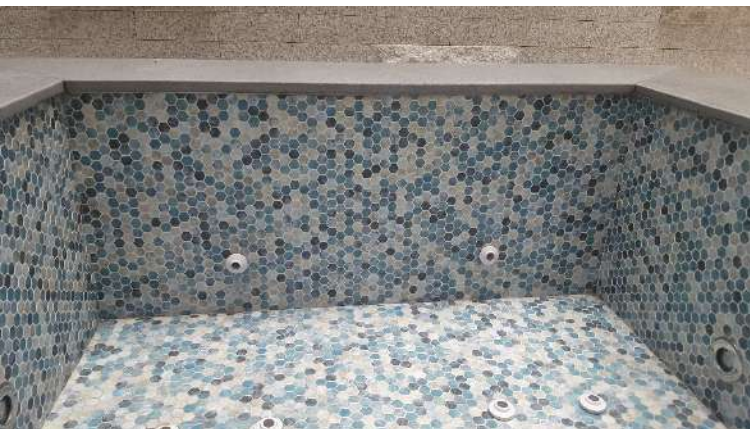


**Branksome Road**  
Mosaic used: Onix Kara Grey



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Pearl Island

Mosaic used: Onix Hex Frisia Silver



# Job Reference

MOSAICO.SGPTE LTD Singapore project references



Ewart Park

Mosaic used: Ezari Custom Mix



# 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**



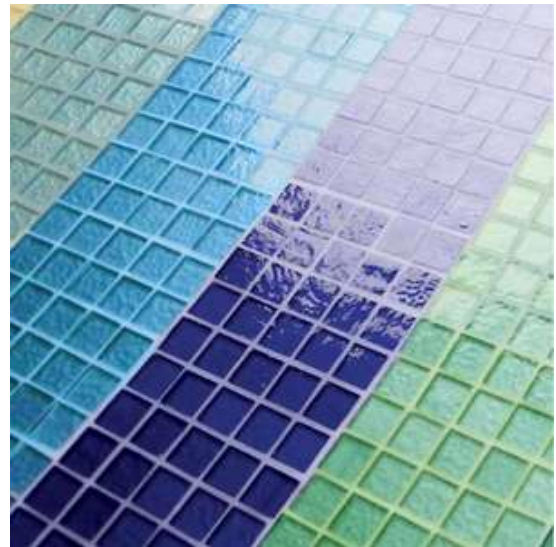
STARLIKE® EVO Neutro + **Bronze**



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**<sup>®</sup>

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<sup>®</sup> 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

**LITOKOL**®

Grouts



## IDENTIFICATION DATA

<b>Appearance</b>	<b>Component A:</b> thick coloured paste <b>Component B:</b> thick liquid				
<b>Colours</b>	<b>CLASS Cold</b>	<b>CLASS Warm</b>	<b>GLAM</b>		<b>METALLIC Collection</b>
	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			
<b>Classification according to EN 13888</b>	RG – Reactive grout for joints				
<b>Classification as per EN 12004</b>	R2T - Improved high-performance reactive vertical no-slip adhesive				
<b>Customs code</b>	35069190				
<b>Shelf life</b>	24 months in original packaging when stored in a dry place				

## APPLICATION DATA

<b>Waiting time for grouting</b>	<p><b>Floor application</b></p> <ul style="list-style-type: none"> <li>• with normal-setting adhesive: 24 hours</li> <li>• with fast-setting adhesive: 4 hours</li> <li>• with mortar: 7-10 days</li> </ul> <p><b>Wall application</b></p> <ul style="list-style-type: none"> <li>• with normal-setting adhesive: 24 hours</li> <li>• with fast-setting adhesive: 4 hours</li> <li>• with mortar: 2-3 days</li> </ul>
<b>Mixing ratios</b>	<p><b>Component A:</b> 93.7 parts by weight <b>Component B:</b> 6.3 parts by weight The two components are pre-measured in their relevant packaging</p>
<b>Consistency of mix</b>	Thixotropic paste
<b>Specific gravity of mix</b>	1.55 kg/l
<b>Pot life</b>	About 1 hour at T = +23°C
<b>Application temperatures allowed:</b>	From +10°C to +30°C
<b>Application temperatures recommended:</b>	From +18°C to +23°C
<b>Set to light foot traffic</b>	24 hours at T = +23°C
<b>Ready for use</b>	5 days at T = +23°C
<b>Joint width</b>	From 1 to 15 mm



# Technical Data Sheet – Starlike Evo

**LITOKOL**

Grouts



## PERFORMANCE

Shear adhesion strength (EN 12003)	Initial After water immersion After thermal shock	≥ 2 N/mm <sup>2</sup> ≥ 2 N/mm <sup>2</sup> ≥ 2 N/mm <sup>2</sup>
Open time (EN 1346)	≥ 0.5 N/mm <sup>2</sup> after 20 minutes	
Vertical slip resistance (EN 1308)	≤ 0.5 mm	
Resistance to abrasion (EN 12808-2)	≤ 250 mm <sup>3</sup>	
Mechanical flexural strength after 28 days in standard conditions (EN 12808-3)	≥ 30 N/mm <sup>2</sup>	
Mechanical compressive strength after 28 days in standard conditions (EN 12808-3)	≥ 45 N/mm <sup>2</sup>	
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/m<sup>2</sup>

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 <sup>2</sup> )
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 Litoeastic 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

**LITOKOL**®

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

<b>Appearance</b>	<b>Component A:</b> translucent paste <b>Component B:</b> thick liquid
<b>Colour</b>	Crystal 700
<b>Customs code</b>	35089190
<b>Shelf life</b>	24 months in original packaging when stored in a dry place

## APPLICATION DATA

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

## PERFORMANCE

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

## Consumption table

	kg/m <sup>2</sup>	(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	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 <sup>PLWS</sup> 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**<sup>®</sup>

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<sup>®</sup> 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<sup>®</sup> 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

**LITOKOL**

Grouts



## 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 <sup>3</sup>
Mechanical flexural strength after 28 days in standard conditions (EN 12808-3)	≥ 30 N/mm <sup>2</sup>
Mechanical compressive strength after 28 days in standard conditions (EN 12808-3)	≥ 45 N/mm <sup>2</sup>
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 <sup>2</sup>	(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 <sup>2</sup>	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

**LITOKOL**®

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 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	-	●	●	●	●	●
		1.5	●	●	●	●	●
	Sulphuric acid	50	●	●	●	●	●
96		●	●	●	●	●	
Tartaric acid	10	●	●	●	●	●	
Alkalis	Ammonia in solution	25	●	●	●	●	●
	Caustic soda	50	●	●	●	●	●
	Sodium hypochlorite in solution Conc. Active Cl	10	●	●	●	●*	●
		50	●	●	●	●	●
	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	●	●	●	●	●	

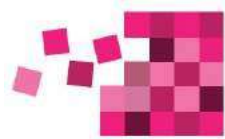
### KEY

● 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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DRESS UP WITH MOSAIC



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