

# STARFLEX DIAMOND

## Deformable cement based tile adhesive C2TE S1

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- ▷ **Suitable for large size ceramic tiles and natural stones**
  - ▷ **Suitable for facades**
  - ▷ **Resistant to water and severe weather conditions**
  - ▷ **Suitable for underfloor heating systems**
  - ▷ **Extended open time and no vertical slip**
  - ▷ **Suitable for various substrates**
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### Description

STARFLEX DIAMOND is a ceramic tile and natural stone adhesive in the form of a white powder. It is consisted of cement, fine selected sand and special additives. It is a, deformable high performance, thixotropic tile adhesive with extended open time and slip resistance. It is suitable for internal and external areas on both horizontal and vertical surfaces.

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### Certifications

Meets the requirements claimed by EN 12004 as improved, deformable cementitious adhesive with extended open time and reduced slip for ceramic tiles for internal and external tiling on floors and walls, C2TE S1 with Declaration of Performance (DoP) C08140-CPR-2000302 (White) & C09341-CPR-2000370 (Grey).

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### Uses

STARFLEX DIAMOND is suitable for fixing coverings such as:

- Large size ceramic and gres porcelain tiles
- Ceramic and glass mosaic
- Humidity stable marble and natural stones

For applications on horizontal or vertical surfaces such as:

- External areas, swimming pools, balconies etc.
- Internal areas, wet areas like shower rooms and WC
- Heavy traffic floors
- Underfloor heating systems

For application on various substrates like:

- Properly cured concrete and cement screeds
- Nonabsorbent surfaces (after primer application)
- Renders and plasters
- Cement boards and Gypsum boards (after primer application)

## Technical Data

### Product Identity

Form	Powder
Color	White, Grey
Chemical substance	Portland cement, aggregates, special additives
Granulometry	D <sub>max</sub> : 0,6 mm
Bulk density	1,4 ± 0,1 kg/L
Storage	12 months on dry area in the original sealed packaging

### Application data (+23°C & 50% R.H.)

Mixing ratio	6,5 – 7,5 L of water for 25kg
Specific gravity of the mix	1,65 ± 0,05 kg/L
Application temperature	from +5°C up to +35°C
Pot life	4 - 5 hours
Open time	30 min
Adjustability time	30 min
Walkability	after 24 hours
Grouting on wall	after 10 -12 hours
Grouting on floor	after 24 hours

### Final performance according to EN 12004:2007+A1:2012

	Performance
Initial tensile adhesion strength	≥ 1,0 N/mm <sup>2</sup>
- after water immersion	≥ 1,0 N/mm <sup>2</sup>
- after heat ageing	≥ 1,0 N/mm <sup>2</sup>
- after freeze-thaw cycles	≥ 1,0 N/mm <sup>2</sup>
Extended open time : tensile adhesion strength	≥ 0,5 N/mm <sup>2</sup>
Slip	≤ 0,5 mm
Deformable adhesive: transverse deformation	≥ 2,5 mm

## Application Procedure

### Substrate Preparation

The substrate has to be compact, clean, free of grease, oil, laitance and any substances which may compromise the adhesion of STARFLEX DIAMOND. The minimum tensile strength of the substrate must be at least 1,5 N/mm<sup>2</sup> and the minimum compressive strength at least 5 N/mm<sup>2</sup>. Existing cracks on the substrate should be bonded with the fluid epoxy resin NOVAMIX EPO FLUID. On the still fresh NOVAMIX EPO FLUID surface, scatter NOVAMIX S 500 silica sand or similar in order to create a mineral surface. Concrete based substrates should be prepared in example by grinding, in order to obtain a uniform flat mineral surface without protruding spots.

Existing ceramic, gres porcelain tiles, marble and stone coverings on floors and/or walls must be firmly attached to the substrate and free of laitance on their surface which may compromise adhesion. If required clean the coverings with appropriate detergent, depending on the type of dirt, like ALCALINE CLEANER or ACID CLEAN and rinse with plenty of water.

On absorbent substrates like concrete, cement screeds etc. especially on hot and/or windy days saturate well the substrate with water and remove excess with appropriate toll like sponge. The use of PLANOPRIMER can make the application easier. For additional information refer to the Technical Data Sheets of the relevant products.

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### Preparation of the mix

Mix the content of the 25kg paper bag containing STARFLEX DIAMOND (25 kg) with 6,5 – 7,5 liters of clean and fresh water by means of appropriate electrical stirrer at low speed (500 rpm) for at least 3 - 4min, until a uniform mortar free of lumps is obtained. The mix has a pot life of 4 - 5 hours. During hot periods and in general, it is recommended to avoid direct sunlight exposure of the materials (in powder or liquid form) before use, otherwise the working time is reduced. In any case avoid mixing by hand.

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### Application

The tiles are placed on the still fresh adhesive bed, by applying firm pressure, in order to ensure full contact between the tiles and the adhesive. The open time of STARFLEX DIAMOND in normal temperature and humidity conditions is 30 minutes. Unfavorable weather conditions like contact with strong direct sunlight, drying and/or hot wind or a very absorbent substrate may reduce open time significantly. For this reason it is important to check if the adhesive has formed a superficial skin. If such incident occurs, remove the adhesive from the substrate and reapply it, before applying the tiles. Small corrections must take place 30 minutes after tile application. Surfaces tiled with STARFLEX DIAMOND should not be exposed to rain, strong sun or frost for at least 24 hours.

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### Grouting

Grouting can take place 12 - 24 hours after the tile application. For large size tiles this waiting time might be prolonged. For grouting joints up to 10mm width it is recommended to use of NOVAGROUT F. For rectified tiles or when

the requirement is for very smooth grout surface, NOVACOLOR GLASS can be used. For wide joints of 5 - 20mm NOVAGROUT G. For areas where resistance to strong chemicals is required like in example swimming pools or industrial floors it is recommended to use the epoxy grout NOVAGROUT EPOXY. For additional information refer to the Technical Data Sheets of the relevant products.

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## Recommendations

Avoid using STARFLEX DIAMOND:

- In cases where the substrate and environment temperature is less than +5°C or higher than +35°C
- In a thickness higher than 10mm
- On substrates like metal, wood or surfaces like polyurethane, acrylic and similar paint or coatings (use NOVACOL 2K ELASTIC)
- On PVC, asphalt membranes and in general materials which polymerize in the long run
- For bonding humidity sensitive marble and natural stones
- On friable or not properly cured substrates
- Over existing expansion joints
- Over not absorbent substrates without appropriate primer
- Inside swimming pools without tiles
- Under direct sunlight and/or strong wind

Also note the following:

- Never exceed the maximum recommended quantity of mixing water
- Protect the tiled surface from rain and frost for the first 24 hours
- Do not add cement, lime, gypsum or other binders or substances which may affect the mortar characteristics
- Application should be performed by professional skilled workers

## Consumption

Ceramic tile bonding:

- Mosaics and small dimensions: 2 kg/m<sup>2</sup>
- Medium size tiles: 2,5 - 3kg/m<sup>2</sup>
- Large tiles and external areas: 4-6 Kg/m<sup>2</sup>

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## Cleaning

Tools, buckets, tiles etc. can be cleaned with fresh and clean water as long as, STARFLEX DIAMOND is still fresh. After hardening occurs, cleaning can take place by mechanical means.

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## Storage

STARFLEX DIAMOND remains stable for 12 months from production date inside its original sealed packaging, stored in protected dry area in temperature between +5°C and +35°C.

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## Packaging

Multi-layer paper bags of 25 kg in pallets of 1.250 kg

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## Safety Instructions

For further information refer to the Safety Data Sheet of the product

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## Warning

The technical data and recommendations contained in this leaflet correspond to the best of our knowledge and experience. All the above mentioned information in any case should be considered as merely indicate and subject to confirmation after long term practical applications. In practice, variations in materials, substrates and on-site implementation conditions are such that no warranty can be given on their merchantability or suitability for a particular purpose, and no liability whatsoever from any legal relationship can be claimed against the Company on the basis of any written information, written suggestions tips or other forms of instructions provided. For this reason anyone interested of using the product must be sure beforehand that the product is suitable for the envisaged application. In every case the user alone is fully responsible for any consequences deriving from the use of the product. We retain the right of renewal of the data of the leaflet without warning. For the latest and valid version of the Technical Data Sheet refer to use website [www.novamix.gr](http://www.novamix.gr) or directly to the following QR code of the product.

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