



# 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

CE Marking and Declaration of Performance (DoP) C08140-CPR-2000302 (White) & (DoP) C09341-CPR-2000370(Grey) as improved, deformable cementitious adhesive with extended open time and reduced slip according EN 12004 Class C2TE S1. VOC emission classification GEV-Emicode EC1<sup>PLUS</sup>, license number 11415/14.02.20

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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	$D_{max} : 0,6 \text{ mm}$
Bulk density	$1,4 \pm 0,1 \text{ kg/L}$
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
Density of the mix	$1,65 \pm 0,05 \text{ kg/L}$
Application temperature	from +5°C up to +35°C
Pot life	> 6 hours
Open time	30 min
Corrections time	30 min
Walkability	after 24 hours
Grouting on wall	after 10 - 12 hours
Grouting on floor	after 24 hours
Consumption by trowel	No 4: 1,8 – 2,0 kg/m <sup>2</sup> No 6: 2,6 – 2,8 kg/m <sup>2</sup> No 8: 3,6 – 4,0 Kg/m <sup>2</sup> No10: 4,8 – 5,0 kg/m <sup>2</sup>

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

	Performance	Requirements
Initial tensile adhesion strength	$\geq 1,9 \text{ N/mm}^2$	$\geq 1,0 \text{ N/mm}^2$
- after water immersion	$\geq 1,1 \text{ N/mm}^2$	$\geq 1,0 \text{ N/mm}^2$
- after heat ageing	$\geq 2,6 \text{ N/mm}^2$	$\geq 1,0 \text{ N/mm}^2$
- after freeze-thaw cycles	$\geq 1,6 \text{ N/mm}^2$	$\geq 1,0 \text{ N/mm}^2$
Extended open time: tensile adhesion strength	$\geq 1,5 \text{ N/mm}^2$	$\geq 0,5 \text{ N/mm}^2$
Slip	$\leq 0,2 \text{ mm}$	$\leq 0,5 \text{ mm}$
Deformable adhesive: transverse deformation	$\geq 2,5 \text{ mm}$	$\geq 2,5 \text{ mm}$

## 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>.

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. 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 for at least 3 – 5 min, until a uniform mortar free of lumps is obtained. 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 the 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 very smooth grout surface, NOVACOLOR GLASS can be used. For wide joints of 5 - 20mm NOVAGROUT G can be used. In 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.

## 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
- 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

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## Safety Instructions

For information and instructions regarding disposal and safe handling, users should refer to the latest Safety Data Sheet of the product containing ecological, toxicological and other safety related data.

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## Legal notes

The technical data and recommendations contained or listed in this leaflet are the result of laboratory measurements, of our current knowledge and experience. All the above-mentioned information and specifications should in any case be considered as indicative, as they may differ from each other. The Company makes every effort to ensure the accuracy of the information provided herein. Product specifications, prices and availability are subject to change without notice and may differ from those shown.

In practice, variations in materials, substrates and on-site implementation conditions are such that no warranty can be given or implied, as to the merchantability or suitability of the materials for a particular purpose and for the exact conditions of each project. Anyone interested of using the product must be sure beforehand that the product is suitable for the intended use and in any case, the user is solely responsible for any consequences due to the use of the product. Among other things, the Company is not responsible for any normal wear or tear from environmental or other inappropriate conditions. We reserve the right to revise or change the data herein without prior notice.

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For the latest and a valid version of the Technical Data Sheet, the user of the material must refer to our website [www.novamix.gr](http://www.novamix.gr) or directly to the QR Code of the product.



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