

MARMOFLEX S2



Highly deformable tile adhesive and waterproofing mortar

- ▷ **Extremely long open time, ideal for warm climates**
 - ▷ **Very high performance with excellent workability**
 - ▷ **Tile adhesive and waterproofing mortar in a single product**
 - ▷ **Reduced consumption by 20%**
 - ▷ **Suitable for large tile sizes and natural stones**
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Description

MARMOFLEX S2 is a one component highly deformable cement-based tile adhesive and a waterproofing mortar in a single product. The very high performance and the extremely long open time make it an ideal adhesive for laying tiles under very difficult conditions such as high application temperatures. At the same time, it has 20% lower consumption than conventional tile adhesives.

Certifications

CE Marking and Declaration of Performance (DoP) C09437-CPR-2100380 as improved, highly deformable cementitious adhesive for ceramic tiles with extended open time and reduced slip according EN 12004 Class C2TE S2 and C09437—CPR-2030120 as Surface protection product – Coating, Principle 2 (Moisture control) Method 2.3 and Principle 8 (Increasing resistivity) Method 8.3 according EN 1504-2.

Uses

MARMOFLEX S2 is suitable for tiling and sealing in:

- External areas, swimming pools, balconies, etc.
- Internal areas, wet areas like shower rooms and WC

It is suitable for laying all types of tiles, marble and natural stones even sensitive to moisture

- In areas with heavy traffic such as offices, shopping malls, etc.
- In underfloor heating applications
- Under particularly difficult application conditions such as increased ambient temperatures
- In almost all types of substrates

Technical Data

Product Identity

Form	Powder
Color	White
Chemical substance	Portland cement, aggregates, special additives
Granulometry	D _{max} : 0.6 mm
Bulk density	1.1 ± 0.1 kg/L
Storage	12 months on dry area in the original sealed packaging

Application data (+23°C & 50% R.H.)

Mixing ratio	5.8 – 6.2 L of water for 20kg
Density of the mix	1.4 ± 0.05 kg/L
Application temperature	from +5°C up to +45°C
Pot life	> 6 hours
Open time	> 60 min
Corrections time	≈ 60 min
Walkability	after 6 hours
Grouting	after 12 hours

Final performance according to ISO 13007-1:2010 (C2TE S2 P2)

P2: Improved adhesion to exterior glue plywood

Final performance according to EN 12004:2007+A1:2012 (C2TE S2)

	Performance	Requirement
Initial tensile adhesion strength	≥ 4.0 N/mm ²	≥ 1.0 N/mm ²
- after water immersion ^{1,2}	≥ 2.0 N/mm ²	≥ 1.0 N/mm ²
- after heat ageing ^{1,2}	≥ 4.0 N/mm ²	≥ 1.0 N/mm ²
- after freeze-thaw cycles	≥ 2.5 N/mm ²	≥ 1.0 N/mm ²
Extended open time: tensile adhesion strength		
- 30 min ^{1,2}	≥ 4.0 N/mm ²	≥ 0.5 N/mm ²
- 60 min	≥ 2.0 N/mm ²	
Slip	≤ 0.5 mm	≤ 0.5 mm
Deformable adhesive: transverse deformation	≥ 7 mm	≥ 5 mm

¹: substrate failure, ²: tile failure

Final Performances according to EN 1504-2:2004

	Performance	Requirement
Permeability to water vapour	$S_d < 5 \text{ m}$	Class I : $S_d < 5 \text{ m}$
Capillary absorption and permeability to water	$\leq 0.05 \text{ Kg / m}^2 \text{ h}^{0,5}$	$\leq 0.1 \text{ Kg / m}^2 \text{ h}^{0,5}$
Adhesion strength by pull-off test	$\geq 2.5 \text{ N/mm}^2$	$\geq 1.0 \text{ N/mm}^2$
Crack bridging ability	$> 0.5 \text{ mm (class A3)}$	$> 0.1 \text{ mm (class A1)}$

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 MARMOFLEX S2. Concrete substrates should be prepared appropriately mechanically in the example by grinding or sanding to achieve a uniform flat and open porosity surface without protruding points.

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, ACID CLEAN or ACID CLEAN TURBO and rinse with plenty of water.

Preparation of the mix

Mix the content of the 20kg paper bag containing MARMOFLEX S2 (20 kg) with 5.8 – 6.2 L of clean and fresh water by means of appropriate electric 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.

Application

A. As tile adhesive

MARMOFLEX S2 is applied depending on the size of the tile with a notched trowel that will give the right thickness to ensure adequate coverage of the back of the tile. The tiles are placed on the still fresh adhesive bed, by applying firm pressure, to ensure full contact between the tiles and the adhesive.

B. Waterproofing and bonding of the tiles in one step

A basic prerequisite for this type of application is that the substrate is level without any discontinuities. Apply MARMOFLEX S2 with a notched trowel, with tooth size dependence on the size of the tile, but at least N° 12 and immediately spread in the fresh layer by carefully pressing the tiles in place. In this way, a

monolithic and continuous layer of welding and sealing of a total thickness of 4 - 5 mm is achieved.

C. Waterproofing and bonding of the tiles in two steps

Apply MARMOFLEX S2 with a smooth spatula in a continuous layer, applying enough pressure to the substrate to ensure adequate adhesion. The application thickness should be about 2 mm. After about 6 hours the first layer is walkable and is possible to continue with the application, using a notched trowel, with tooth size dependence on the size of the tile. The total application thickness should not be less than 4 mm where 2 mm is the sealing layer.

Regardless of the way of application, sealing of critical areas such as corners and edges must precede the sealing-adhesive layer. This is achieved by applying a layer of mortar to a width of 5-10 cm on both the floor and the walls or any other vertical element of the structure and incorporating into the fresh still mortar a suitable gauze or grid.

Grouting

Grouting can take place 12 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. 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 MARMOFLEX S2:

- In cases where the substrate and environment temperature is less than +5°C or higher than +45°C
- On vertical surfaces as well as in swimming pools in one step as a waterproofing mortar and tile adhesive
- On PVC, asphalt membranes and in general materials which polymerize in the long run
- On not properly cured substrates
- Over existing expansion joints
- Inside swimming pools without tiles

Also note the following:

- Protect the tiled surface from rain and frost for the first 12 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

Consumption of MARMOFLEX S2 is 1.0 kg/m² per mm application thickness

Cleaning

Tools, buckets, tiles etc. can be cleaned with fresh and clean water as long as, MARMOFLEX S2 is still fresh. After hardening occurs, cleaning can take place by mechanical means.

Storage

MARMOFLEX S2 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.

Packaging

Multi-layer paper bags of 20 kg.

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.

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 or directly to the QR Code of the product.



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