

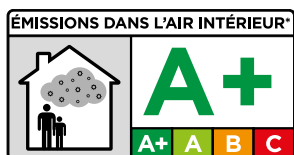


MARMOFLEX+S1

Thin-bed, medium-bed, flow-bed, thick-bed flexible natural stone ultra-rapid, silver grey, adhesive and levelling

- Large formats
- 5 in 1 technology: thin, medium and thick bed application, as fluid and levelling adhesive
- Wall and floor areas
- For heated substrates
- For interior and exterior areas
- Up to 30 mm bed thickness
- Crystalline water binding
- Ultra-rapid grip
- Ready for light foot traffic and ready to be grouted in 2 hours
- In full service after 5 hours
- Tested in accordance with EN 12004, C2 FT S1
- **CE**

This product improvable with CEMLATEX 600



AREAS OF APPLICATION:

MARMOFLEX+S1 offers particularly smooth application as a thin bed, medium-bed, flow-bed, thick-bed and fluid adhesive. For the installation of natural stone slabs as well as vitrified and earthenware tiles, ceramic tiles with low water absorption $\leq 0.5\%$ (fully vitrified), those with deeply profiled backs, those with thickness variations and those with high and low water absorption.

Preferred for work under time constraints and for the installation of light coloured, translucent materials.

MARMOFLEX+S1 is suitable for confidently bonding to even and uneven load-bearing substrates. MARMOFLEX+S1 is furthermore for use as a repair and patching mortar up to 30 mm, beneath tiles. It is additionally suitable as an installation material for lightweight building panels e.g. extruded polystyrene and for installing tiles to mineral-based and dispersion-based BENFER waterproof membranes. On horizontal external areas such as e.g. balconies and terraces and when laying large format tiles in internal areas.

MARMOFLEX+S1 is improvable, where necessary, with CEMLATEX 600. See "PRODUCT PREPARATION".



TECHNICAL
ASSISTANCE



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CONTRACT ITEMS SPECIFICATIONS:

Ceramic floors and walls must be laid with a single component, cement-based adhesive, flexible and hyper white, with highly fast setting and hardening, applicable with trowel in thickness up to 30 mm, conforming to norm EN 12004 class C2FT S1 as MARMOFLEX+S1 by Benfer.

SUITABLE SUBSTRATES:

- Concrete
- Cement-based screeds, standard or heated with water system or or electric resistance
- Cement-based plaster
- Flexible waterproofing membranes made up of cement and polymers (ACQUASHIELD-2KF)
- Cement based blocks

INSIDE ONLY:

- Fluid cement-based screeds (prior application of an appropriate primer if demanded),
- standard or heated with water system or electric resistance
- Old ceramic tiles (prior application of an appropriate primer)
- Standard or waterproof plasterboard
- Elastomeric waterproofing membranes (ACQUASHIELD-GEL)

MAXIMUM SIZES:

- Internal floors with maximum length of longest tile side up to 360 cm.
- External floors with maximum length of longest tile side up to 120 cm.
- Internal walls coverings with maximum length of longest tile side up to 360 cm
- External walls coverings with maximum length of longest tile side up to 90 cm

See the choice table to verify size limits by tile/substrates characteristics.

METHOD OF USE:**SUBSTRATE PREPARATION:**

The substrates must be solid, free from oil, grease and dust. Any paint-work must be in good condition, washed and degreased. If this is not the case, the paint must be removed. Gypsum or calcium sulphate based or absorbent substrates must be previously treated with BENFERPRIM. Do not use to lay products with evidently subject to persisting stains, in case of contact with water, even for short times; in this case use BENFERJOLLY (see table page 5). Do not use to lay composed tiles which are highly unstable in presence of humidity like those based in green marble and some types of slate, or sandstones; in this case use BENFERJOLLY (see table page 5). Do not use on plastic materials, metal or wood. Do not use on supports subject to moisture pressure and moisture rising.

- Smooth screeds must be roughened
- Anhydrite screeds, as all the supports made of a combination of calcium sulphate, must be completely dry, roughened, cleaned with a vacuum cleaner and carefully treated with Primer STARPRIM or BENFERPRIM.
- Before the gluing on heated supports, they need to be turned on in conformity with norms and valid regulation now being. During application the heating system must be turned off.

To define when the support is ready to be coated, control humidity level with a carbide gauge.

The measure of residual humidity made with a carbide gauge must not be higher than:

Cement screeds: < 2 % for screeds on separating or insulating layers.

Non-heated anhydrite screeds: < 0,5%

Heated anhydrite screeds: < 0,3%.

PRODUCT PREPARATION:

Place clean water into a clean mixing bucket, add MARMOFLEX+S1 and mix with a paddle (approx. 300-700 rpm) until homogenous. In case you want to improve MARMOFLEX+S1 deformability to class S2, place 5 kg CEMLATEX 600 in the mixing container then mix in MARMOFLEX+S1 until homogenous. Subsequently mix 2,5 litres of in water as necessary to adjust the consistency. Allow to stand for a short time, then mix again. Do not mix more adhesive than can be used within the pot life.

Mixing ratio:

High thickness bed:	27% % - 6,75 lt water for 25 kg bag
Medium thickness bed:	28% - 7 lt water for 25 kg bag
Thin thickness bed:	29 % - 7,25 lt water for 25 kg bag
Flow bed:	33 % - 8,25 lt water for 25 kg bag flow bed
Class Adhesive C2FTS2:	5 kg of CEMLATEX 600 and 2,5 lt of water/bag of 25 kg.

TILING:

INTERIOR: Lay the tiles while exerting a good pressure on the tiles surface, so that contact between tile and adhesive will be at least of 95-100%.

EXTERIOR: The contact between tile and adhesive must be 100% so to avoid the eventual rain infiltrations that in case of frost could cause the detachment of the tiles. Therefore, it is suggested to spread also a layer of MARMOFLEX+S1 on the back of the tiles.

We suggest to do the same things even inside for:

- Floor tiles largest than 500 cm² with water absorption of the tiles $\geq 0.5\%$ (e.g. porcelain tiles)
- Floor tiles largest than 1100 cm² with all the other types of tiles
- Wall tiles largest than 120 cm² with water absorption of the tiles $\geq 0.5\%$ (e.g. porcelain tiles)
- Wall tiles largest than 500 cm² with all the other types of tiles
- Special applications such as industrial refrigerators, basins, swimming pools, etc.

It is essential to leave a joint of at least 3 mm between each tile, and to ensure that the tiling conforms with the expansion joints of the structure, to be elastically sealed, as well as the joints between walls, and the joints between wall and floor. In any case expansion joints and perimeter joints must be carried out every about 20 m².

FULL SERVICE:

At 23°C and with 50% relative humidity, the open time of the mix is approximately 20 minutes. In unfavourable conditions, these times may be significantly reduced. You are therefore advised to spread the adhesive a little at a time and to check frequently that it has not formed a surface film before laying the tile. To improve workability, especially in summer, it is beneficial to exclude draughts. In the first 12 hours after application, the adhesive does not withstand frost. Flooring installed using MARMOFLEX+S1 can be walked over cautiously after about 2 hours for grouting, and full service after 5 hours. Value with our technical office, the areas and rooms with special conditions before putting in service (for example heavy loading commercial areas, damp rooms, heated floors and so on...).

ADVICE:

- Do not install tiles or natural stone using the 'dot and dab' method. 'Dot and dab' fixing does not conform to recognised technical rules.
- To improve adhesion when installing tiles larger than 60 × 60 cm, the rear should receive a scratch coat or tiles should be laid in the floating-buttering technique.
- When installing slate and with agglomerated stone tiles, which contain the mineral, serpentinite, we recommend the use of BENFERJOLLY or DEKOGROUT-2K to avoid curling effects due to water uptake.
- For the installation of agglomerated stone tiles/synthetic stone tiles, we recommend our thin-bed adhesive MARMOFLEX+S1 modified with 5.0 kg CEMLATEX 600 / 25 kg MARMOFLEX+S1 and 2,5 litres of water.
- When installing natural and synthetic stone, note the specific properties of the product (tendency to discolour, risk of curling etc.) and the manufacturer's installation recommendations. In case of any doubt we recommend fixing a test area.
- Do not re-life thin-bed adhesive, which has already begun to stiffen, by adding more water or fresh adhesive. There is a risk of inadequate strength development.
- Do not place on substrates subject to rising damp
- When installing tiles in heavy duty exterior areas (balconies and terraces), install the highly elastic bonded waterproofing system like ACQUASHIELD range.
- Large irregularities in the substrate up to 30 mm can be evened out by applying a levelling layer of MARMOFLEX+S1. Allow the levelling layer a minimum of 2 hours *) to cure.
- Not suitable for under water application.
- For applications on REVOFLEX we recommend to use BENFERJOLLY.
- Thoroughly prime calcium sulphate-based substrates with BENFERPRIM or STARPRIM.
- MARMOFLEX+S1 is a hydraulic setting mortar, that needs to be protected against water and frost penetration until fully hardened, which can last several days in unfavourable weather conditions.
- Protect areas, to which MARMOFLEX+S1 will not be applied, from its effects.
- Direct contact between cementitious tile adhesives and magnesite screeds leads to the destruction of the magnesite screed via chemical reaction. Do not apply on these products, or use previously a suitable primer.

Please observe a current valid EU Safety Data Sheet.

CLEANING: Clean with water immediately after use.

CONSUMPTION: The consumption changes according to planarity of the support, to the used trowel and to the laying system (simple or double gluing). About 1,10 kg/m²/mm

PACKAGING: Available in 25 kg paper bags.

STORAGE: In the original closed package in a cool dry place. Open packages must be used immediately.

SHELF LIFE: 12 months.

List of some of the typical natural stones and application advice

MARMOFLEX +S1 is suitable for the application of the following natural stones

Beige Alicante	Bianco zandobbio
Bianco Alicantino	Botticino
Bianco Carrara	Calacatta
Bianco cristallino	Crema Marfil
Bianco di Siena	Nero Assoluto Africa
Bianco Jura	Nero Marquina
Bianco Naxos	Rosa Beta
Biancone	Rosa Perlino
Bianco Nero Carrara	Rosa Portogallo
Bianco statuario venato	Travertino
Bianco Thassos	

For the following natural stones it is necessary to contact the technical office in Benfer or using BENFERJOLLY

Breccia	Rosa Chiampo
Crema Valencia	Rosa Nembro
Onici	Rosso Alicante
Perlato Olimpo	Rosso Verona
Rosa Atlantide	Trani

For the following natural stones we recommend NOT to use MARMOFLEX+S1.
Use BENFERJOLLY

Ardesie	Rosso Antico d'Italia
Arenarie	Rosso Levanto
Basaltica di Bagnoregio	Rosso Verona
Pietra di Carniglia	S.Gottardo
Pietra di Vicenza	Verde Alpi
Pietra serena	All kind of green.
Porfidi di Albiano	

All the granite and all the reconstructed materials are composed by resins and stones as reported above.

PRODUCT TECHNICAL DATA

Classification EN 12004:	C2FTS1
Basis:	White special cement, aggregates, additives
Colour:	Silver Grey
Apparent mass volume:	1,1 kg/dm ³
Maximum grain size:	0,5 mm
Storage and Duration:	12 months in the original closed package in a cool dry place
Danger of toxicity:	No. The product may cause irritation to the eyes and skin due to presence of cement.
Inflammable:	No
Mixture ratio:	
High thickness bed:	27% % - 6,75 lt water for 25 kg bag
Medium thickness bed:	28% - 7 lt water for 25 kg bag
Thin thickness bed:	29 % - 7,25 lt water for 25 kg bag
Flow bed:	33 % - 8,25 lt water for 25 kg bag
Class Adhesive C2FTS2:	5 kg of CEMLATEX 600 and 2,5 lt of water/bag of 25 kg.
Mixture consistency:	From fluid to creamy
Density of paste:	1,5 kg/dm ³
Application temperature:	From + 5°C to + 35°C
Pot Life:	20–30 minutes*
Open time:	About 20 minutes *
Vertical sliding to EN 1308:	< 0,5 mm
Max thickness.:	30 mm
Foot traffic after:	2 hours*
Grouting:	2 hours*
Full service:	5 hours*
Final hardening:	3 days*
Final performance:	
Adhesion (after 28 days):	> 1,0 N/mm ²
Adhesion after warming:	> 1,0 N/mm ²
Adhesion after water immersion:	> 1,0 N/mm ²
Adhesion after frost-thaw cycles:	> 1,0 N/mm ²
Deformability according EN 12004:	> 2,5 mm
Temperature resistance:	From -30° C to +90° C
	* at 23°C and 50% relative humidity

PLEASE NOTE: The information given in this chart is based on our best experience and indicative only. It must in any event be verified by the end user, who assumes all liabilities deriving from utilization of the product.