

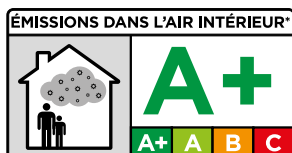
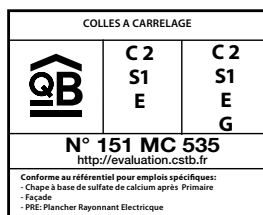


BENFERFLEX+S1

Highly flexible, multi-purpose adhesive, applicable in thickness up to 20 mm, can be used as flow bed adhesive

- Highly deformable
- Multi-purpose, can be used as self soaking adhesive
- Highly resistant to lowering, with outstanding application properties
- Long open time
- Very easy to use
- For heated substrates
- Dust reduced
- Tested in accordance with European standard EN 12004, C2 TE S1
- High yield
- For exterior and interior use
- **CE**

This product improvable with CEMLATEX 600



TECHNICAL FEATURES:

BENFERFLEX+S1 is an adhesive in powder, consisting of cements, graded particle size aggregates, synthetic resins and special additives. It has been formulated and developed for rapid, reliable installation of almost the totality of ceramic material, even on non-absorbent substrates and onto substrates subject to slight dimensional variation. The high resistance to vertical sliding allows to tile from the top down. Thanks to its particular composition, BENFERFLEX+S1 can be mixed with a higher percentage of water to allow for complete "wetting" of the back of the tiles, even on large size formats, with no need for double buttering.

AREAS OF APPLICATION:

Laying of porcelain tiles, thin ceramic slabs, non absorbent single-fired tiles, double-fired tiles, and natural stones (water stable), even large size, and glass mosaic in:

- Interior and exterior walls and floors
- Heavy duty areas
- In conjunction with ACQUASHIELD waterproofing systems
- On top of old wall and floor tiles



TECHNICAL ASSISTANCE



INSURANCE GUARANTEE



TECHNICAL MEETINGS



PROFESSIONAL USE

CONTRACT ITEM SPECIFICATIONS:

Floor and wall in ceramic tiles must be applied with a mono-component, cement-based adhesive flexible, polymermodified, trowelable up to 20 mm thickness, with no sliding, in accordance with EN 12004 class C2 TE S1 like BENFERFLEX+S1 by Benfer.

SUITABLE SUBSTRATES:

- Concrete
- Cement-based screeds, standard or heated with water system
- 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
- Fluid anhydrite-based screeds (prior application of an appropriate primer), standard or heated with water system
- Old ceramic tiles
- Standard or waterproof plasterboard
- Elastomeric waterproofing membranes (ACQUASHIELD-GEL)
- Cement-based and gypsum-based boards (prior application of an appropriate primer)

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.



METHODE OF USE:

SUBSTRATES PREPARATION:

The substrates must be solid, load-bearing, 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 carefully removed. Gypsum or calcium sulphate based substrates must be previously treated with BENFERPRIM. Absorbent substrates must be treated with BENFERPRIM.

MIXTURE PREPARATION:

Mix BENFERFLEX+S1 in a clean mixing bucket with clean water until homogenous.

Mixing ratio:

- **As thixotropic adhesive** 8.0 litres of water: 25 kg BENFERFLEX+S1
- **As flow-bed adhesive** 9,5-10 litres of water: 25 kg BENFERFLEX+S1

Allow to stand for 2 minutes, then re-mix.

Do not mix more BENFERFLEX+S1 than can be used within the pot life.

PRODUCT APPLICATION:

The adhesive must be applied in a homogeneous and continuous layer, with a notched trowel, suitable for the tile format you have to use.

Laying the coating within the open time of the adhesive.

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

EXTERIOR: The contact between tile and adhesive must be 100%, in order to avoid eventual rain infiltrations, that in case of frost could cause the detachment of the tiles.

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 is approximately 30 minutes. Under 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 tiles. To improve workability, especially in summer, it is useful to exclude draughts. In the first 48 hours after application, the adhesive does not withstand frost. Flooring installed using BENFERFLEX+S1 can be walked over cautiously after about 12 hours for grouting (48 hours for temperatures under 15°C). Full service after 7 days, depending on the formats, on the supports and on temperature of environment.

ADVICE:

- In case of application of tiles on waterproofing system, we recommend the use of BENFERJOLLY as adhesive.
- When installing tiles in more demanding conditions externally (balconies and terraces), we recommend the highly elastic bonded waterproofing system ACQUASHIELD-2KF.
- When fixing natural and synthetic stone, take the specific properties of the product and the manufacturer's installation recommendations into consideration (tendency to discolour, risk of curling). We recommend to fix a trial area.
- To avoid curling effects through water absorption, we recommend that when fixing natural/synthetic stone BENFERJOLLY is used.
- Thoroughly prime calcium sulphate based substrates with BENFERPRIM, STARPRIM. To avoid the formation of ettringite, BENFERFLEX ANHYDRITE is especially suited for installing tiles to calcium sulphate based substrates up to a residual moisture of 1.0% when heated.
- Adhesive, which has started to stiffen, should not be re-lifted through the addition of water or fresh mortar as there is a risk of inadequate strength development.
- BENFERFLEX+S1 is a hydraulically hardening mortar and should be protected from water and frost penetration until completely hardened, which may take a few days in unfavourable weather conditions.
- BENFERFLEX+S1 contains cement which has an alkaline reaction in contact with humidity so it is necessary to: protect from contact with the skin and with eyes; in case of irritation wash accurately with fresh and clean water; in case of contact with the eyes contact immediately a doctor.

Please observe a current valid EU Safety Data Sheet.

CLEANING: Tiling should be cleaned with a damp cloth or sponge when the adhesive has already started to set.

CONSUMPTION: The consumption changes according to planarity of the support, to the used trowel and to the laying system.

NOTCHED TROWEL	Consumption kg/m ²
4 mm	1,8
8 mm	3,5
10 mm	4-5
20 mm	8-10

PACKAGING: BENFERFLEX+S1 is available in 25 kg poly-coated paper bags on europallet of 1.050 or 1.500 kg.

STORAGE: In the original closed package in a cool dry place.

SHELF LIFE: 12 months from the date printed on the packaging.

PRODUCT TECHNICAL DATA	
Classification EN 12004:	C2TES1
Basis:	Cement, aggregates, additives
Colour:	Extra white and grey
Apparent mass volume:	1,1 kg/m ³
Maximum grain size:	0,3 mm
Storage and Duration:	12 months in the original closed package in a cool dry place
Danger of harm:	No, Possible irritation of the eyes and skin upon contact
Flammability:	No
Mixture ratio:	32%, 8 lt water/25 kg bag; 38-40%, 9,5-10 lt for 25 kg bag (flow bed)
Mixture consistency:	Cream
Mass volume of paste:	1,7 kg/dm ³
Application temperature:	From + 5° C to + 35° C
Pot Life:	About 3 hours*
Open time:	30 minutes*
Vertical slip according to EN1308:	< 0,5 mm
Maximum thickness:	20 mm
Foot traffic:	12 hours*
Grouting:	12 hours*
Full service conditions after:	7 days*
Final hardening:	28 days*
Final performance:	
Adhesion at start (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
Deformable according to DIN EN 12004 (medium):	2,8 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.