



# super-flex S2 pro

**super-flex S2 pro** is a type C2 TE S2 high-performance adhesive, as per EN 12004, for laying all kinds of ceramic tiles on the most used substrates in the construction sector. Specially recommended for laying large format thin porcelain tiles such as XLIGHT. Professional use.

This adhesive has excellent adherence and deformability performance without needing to mix with additives, with excellent use and workability conditions. Thixotropic.

## Recommended use

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- Indoor walls with large format panels as XLIGHT and XTONE.
- Outdoor walls with large format panels as XLIGHT and XTONE (no back-meshed).
- Laying of ceramics in refurbishing jobs.
- Indoor large format ceramic tile coverings.
- Outdoor ceramic tile wall coverings.
- Indoor and outdoor porcelain tile floor coverings.
- High traffic floor tiles.
- Floor tiles on underfloor heating and radiant cooling.
- Pools and damp environments.

## Materials

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- Large format ceramics.
- Porcelain tiles (water absorption < 0.5% as per EN-ISO 10545-3).
- Large format thin porcelain tiles such as XLIGHT.
- Glass mosaic.
- Dimensionally stable and not prone to staining natural stone and marble.

Before applying **super-flex S2 pro** on a substrate not stated in the previous listing, please carry out a test or check with **butech's Technical Department**.

- Mosaics in swimming pools (consult their application with the Technical Department at butech)

## Substrates

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- Cement covered floors and walls.
- Concrete slabs.
- Plasterboards.
- Existing ceramic tiles, both on indoor walls and floors.
- On anhydrite or plaster substrates apply **uniprim**.

## Features

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- Cement-based, single component adhesive.
- Maximum adherence and deformability.
- High initial adherence.
- Extended working times. Open time higher than 30 min.
- Thixotropic.
- Application thickness up to 10 mm.
- Frost-resistant.

## Certifications / Standards

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EN 12004                      C2 TE S2



## Instructions for use

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### Preparing the substrate.

The substrate or laying base must be dimensionally stable and non-deformable, without risk of cracking and shrinkage due to mortar setting. In order to reduce stress transmission to the substrate, we recommend decoupling mortar screeds thicker than 40 mm by placing a polyethylene sheet under the mortar layer and making a joint around the whole floor perimeter. Alternatively, we recommend making a fully bonded base with mortar screed.

The cement-based substrates must present the following characteristics:

- Residual moisture under 3%.
- Clean from dust, grease, or any other substance that may compromise the bonding material adherence.
- Compact and free of cracks, fully set.
- Rough texture, efflorescence-free.
- Level and flat, deviations under 3 mm every 2 m of surface.

In the case that any of the defects listed above are present, they must be fully corrected before starting to lay the ceramic.

### Preparing the adhesive.

**super-flex S2 pro** is a cement-based adhesive that is to be mixed with water right before use, and mixed to form a mortar. The following are the instructions for preparing this adhesive:

- Use clean containers and tools.
- Mix with clean water with a ratio of 27-29%: 6.75 – 7.25 liters / 25 kg bag.
- First pour the water into the container, and then add the adhesive slowly.
- Mix with an electric mixer at low rpm (500 rpm) until the mass is creamy, uniform, and without lumps.
- Let stand for approximately 5 minutes.
- Stir with a hand trowel, and apply.

## Applying the adhesive.

For laying ceramic tiles or similar, the only recommended technique for the **one super-flex S2 pro** adhesive is laying the tiles on a thin layer with a notched trowel. The notched trowel type will depend on the amount of adhesive to use in laying the tiles which, in turn, depends on the tile size, the characteristics of the tile back, and evenness of the laying surface. The following are the instructions for applying this adhesive:

- Spread a thin layer of adhesive on the substrate, with the smooth side of the trowel.
- Apply a second coat and comb with the notched part of the trowel.
- Distribute the adhesive grooves uniformly. For wall coverings, we recommend applying the adhesive horizontally, whereas for floors, we recommend applying it parallel to the tile's long side.
- Before laying the tile clean any element off the back, that could interfere with the bonding of the mortar.
- Check the wettability of the adhesive, and lay the ceramic on the fresh adhesive.
- Lay the tile on the adhesive until you get a uniform and full contact. We recommend pressing the tile with a slight back and forth movement, to squash the adhesive groove and cover the back of the tile.
- Check periodically, by removing an already placed tile, the level of adhesive coverage. We recommend a minimum level of 75 %
- In the case of large formats, outdoors laying, radiant floors, heavy traffic, or overlappings, there must be 100% contact; therefore we recommend using the double bonding method where, besides applying the adhesive on the substrate as mentioned above, a thin layer is applied with the smooth end of the trowel on the back of the tile.
- The maximum adhesive thickness should not exceed 10 mm.
- Once the setting time has passed, clean the installation joints in their full length, width, and depth.

## Commissioning.

Let the mortar set for a minimum of 24 hours before sealing the placement joints or allowing transit on a floor laid with **super-flex S2 pro**. Adverse environmental factors may delay the adhesive setting so if in doubt, let 36 hours pass.

## Sealing installation joints.

- Before starting to seal the installation joints, make sure the adhesive has finished its initial setting and that the moisture on the tile back has been eliminated, especially when it comes to laying mosaics or large format and low absorption tiles with minimal installation joint
- For sealing placement joints, we recommend the professional line of technical mortars colorstuk and epotech, available in different finishes and colors. Given the importance of the finishing of the installation joints, and the importance that all joints between tiles are sealed, we recommend using extreme care in this work, as well as following scrupulously the joint material manufacturer's instructions.
- As general rule, it is not recommended to leave installation joints smaller than 1.5 mm indoors and 5 mm outdoors. There is currently a wide range of spacers and separators that make the work of the ceramic layer easier, but we highly recommend butech's self-leveling separators which, in addition to marking the joint width, avoid the appearance of ledges between tiles, and laying defects.

## Consumption

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- 6 x 6 Notched trowel	3 kg / m <sup>2</sup>
- 8 x 8 Notched trowel	4 kg / m <sup>2</sup>
- 10 x 10 Notched trowel	5 kg / m <sup>2</sup>
- 10 x 10 notched trowel and double bonding	6 kg / m <sup>2</sup>

## Cleaning and maintenance

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- Before laying, and in order to avoid later problems, it is recommended to consult the supplier's technical data sheet for the type of wall covering used, and check that it is not sensitive to alkaline products such as cement mortars, or to acid construction cleaners.
- Clean up any remaining adhesive before it hardens. Be extremely cautious with non-slip floors, absorbent stone, or tiles with relief surface. In case of mortar stains, it is recommended to use the construction remains cleaner acid net. We recommend performing a preliminary test.
- Once the laying is carried out, clean the tool with plenty of water before the remains harden.
- Check the supplier's maintenance instructions for the type of wall covering used.

## Storage

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- 12 months in its original container and protected from moisture and the weather. Store in a dry place, covered and protected from direct sunlight. Product according to the requirements of Directive 2003/53/EC and Regulation No 1907/2006/CE Appendix XVII

## Safety and hygiene.

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Contains hydraulic binders which can produce a slightly irritant alkaline reaction when in contact with sweat or other body fluids. Safety data sheets available to the professional user who requests them.

## Warnings

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- The only recommended laying technique is laying the tiles on a thin layer with a notched trowel. Do not use **super-flex S2 pro** with mortar blobs applied with trowel tip, or as an additive in a traditional mortar laying.
- Carry out the laying through the double bonding method on tiles with format greater than 1000 cm<sup>2</sup>, and applications where you need 100% contact between the ceramic and the substrate: outdoor settings, radiant floors, with heavy traffic, or overlappings.
- **super-flex S2 pro** is an adhesive for professional use. Follow scrupulously all instructions for preparing and applying the adhesive.
- Using more water when mixing the adhesive reduces the final mechanical performance of the mortar and increases the risk of shrinkage during setting.
- Using **super-flex S2 pro** with a thickness greater than 10 mm reduces the final adherence of the adhesive, and increases the risk of shrinkage during setting.
- Working times depend on the wind, humidity, and temperature workplace conditions, so the working times specified on this sheet may vary regarding those of the place where the work is being carried out:
- All mortars dry up in contact with air, losing their adhesive properties. Therefore, before laying the ceramic on the bonding material, we recommend checking periodically the bonding power of the mortar. Never place the ceramic on the bonding material once the non-adhering surface film is formed. In this case, we recommend combing **super-flex S2 pro** until the surface adherence is recovered.

- Protect from rain and frost at least during the first 24 h.
- Do not apply when the temperature is below 5 °C or higher than 35 °C.
- On outdoor floors, make slopes to ensure correct water drainage.
- When laying meshed glass mosaic, check that the adhesive crosses through the back mesh and comes into contact with the mosaic pieces.
- **super-flex S2 pro** is a cement-based adhesive, so when in contact with sulphates and in the presence of moisture, it may produce ettringite. When laying directly on plaster and anhydrite apply a layer of uniprim on the laying surface.
- For outdoor wall coverings we recommend using mechanical anchors with formats equal to or larger than 30 x 30 cm. In any case, comply local instructions for laying wall tiles outdoors.
- When laying marble and other natural stone with risk of stain formation, use the quick-setting adhesive **super-one blanco**.
- When laying slate and other natural stones with risk of deformation from water absorption, we recommend checking with butech's Technical Department.
- Do not apply on substrates subjected to bending, vibration, or strong movement. In this case, we recommend using the reactive resin adhesive **politech n**.
- Do not apply on synthetic materials, metal, glass, and other substrates not compatible with cement-based adhesives. In this case, we recommend using the reactive resin adhesive **politech n**.
  
- The layout, width, and construction details of the perimeter and intermediate movement joints, as well as the materials to be used, should be included in the ceramic tile laying design and are the responsibility of the site management. Recommendations of a general nature:
  - Heed the structural joints present in the substrate.
  - Make movement perimeter joints in corners, floor level changes, and height differences in material changes.
  - As a general rule, make intermediate movement joints that delimit areas as square as possible, 16-25 m<sup>2</sup> outdoors, and 50 m<sup>2</sup> -70 m<sup>2</sup> indoors. They shall have a minimum width of 8 mm.
  
- The technical information contained in this technical data sheet has been collected from approved laboratory tests and under the conditions indicated by the corresponding standards.
- For more information about this product, check with **butech's Technical Department**.

## **Technical Sheet Conditions**

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- This is not a finished product technical sheet. It belongs to a laying material which, together with other products and materials, configures a ceramic tile laying system. Instructions in this technical sheet have been written based on our experience and technical expertise, but they have to be only considered as general recommendations which, together with those for the rest of the products in the system, guide the laying professionals in their job.
- As it is not possible to know all the features and conditions of a building job, professionals must consider it and, if deemed appropriate, perform a previous test to confirm whether the product is suitable for the job.
- The technical sheet cannot reflect all the applications and conditions entailed in the use of a material, so, in situations not described in this sheet, we recommend to perform a previous test and refer to our technical department.
- This sheet has been updated in February, 2024.

## Technical data

Appearance	White powder
Hazard	Irritant (see material safety data sheet)
Flammability	No
Storage time	12 months in a dry place.
Water proportion	27 - 29 %
Specific weight of the powder	1.3 g/cm <sup>3</sup>
Application temperature	5 °C to 35 °C
Open time	30 min.
Setting time	40 min.
Durability	2 h.
Wait for grouting	24 - 36 h.
Trafficability	24 - 36 h.
Final commissioning	15 days
Slip resistance	< 0.5 mm

<b>Adherence as per EN 12004:</b>	
28 days	> 1.0 N/mm <sup>2</sup>
Action of heat	> 1.0 N/mm <sup>2</sup>
Immersion	> 1.0 N/mm <sup>2</sup>
Freeze/thaw cycles	> 1.0 N/mm <sup>2</sup>
<b>Deformability as per EN 12004</b>	≥ 5 mm
<b>Heat resistance</b>	-30 °C up to 100 °C

Data obtained in standard laboratory conditions, at 23 °C and 50% relative moisture.

## References

SAP	Product description	Packaging	Palletizing
100193615	super-flex S2 pro	25 kg bag	1,000 kg/pallet