

# super-flex S2



**super-flex S2** is a type C2 E S2 high-performance cement-based adhesive, as per EN 12004, for laying all kinds of ceramic tiles on the most used substrates in the building industry. Specially recommended for laying large format, thin porcelain tiles like XLIGHT.

This adhesive features excellent performance in adherence and deformability with no need for mixing with additives and excellent conditions of use: an only 15 kg package. This state-of-the-art adhesive includes additives and polymers which increase performance. This means that with a 15 kg bag of **super-flex S2** you can lay the same tiles surface than with a 25 kg bag of regular adhesive.

## 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 coverings.
- Indoor and outdoor porcelain tile coverings.
- High traffic floor tiles.
- Floor tiles on radiant heating.
- 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 like XLIGHT.
- Glass mosaic.
- Natural stone and marble not prone to staining.

Before applying **super-flex S2** on any ceramic floor not included in the list above, carry out a prior test or check with the **Technical Department at butech**.

- 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 tiles in interior walls.
- Existing tiles in residential interior floors.
- On existing tiles in commercial and other public interior floors, apply super-prim.
- WBP plywood boards.
- On anhydrite or plaster substrates apply **uniprim**.

## Features

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- Cement-based, single component adhesive.
- Lightened adhesive. Low consumption onsite.
- Maximum adherence and deformability.
- High initial adherence.
- Extended working times. Open time higher than 30 min.
- Application thickness up to 10 mm.
- Frost-resistant.
- Mixing water: 6 l per 15 kg bag

## Certifications/Standards

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EN 12004

C2 E S2



## Instructions for use

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### Preparing the substrate.

The substrate or laying base must be dimensionally stable and not deformable, and with no risk of cracking and shrinking because of mortar hardening. In case of substrates more than 40 mm thick and for reducing tensions due to structural movements, we recommend to decouple with a polyethylene sheet and a perimetral joint around the flooring. Otherwise, we recommend to make a fully bonded floor with mortar screed.

Cement-based substrates must have the following features:

- Residual moisture lower than 3%.
- Clean of dust, grease or any other substance which might compromise the effectiveness of the bonding material.
- Compact, with no cracks, fully hardened.
- Rough texture, efflorescence-free.
- Level and flat, deviations under 3 mm every 2 m of surface.

In case of presenting any of the above defects, these must be fully amended before proceeding to laying the tiles.

### Preparing the adhesive.

**super-flex S2** is a cement-based adhesive that is to be mixed with water or a liquid additive right before use, and mixed to form a mortar. Below are instructions for preparing this adhesive:

- Use clean tools and containers.
- Mix with clean water in a 40% - ratio: 6 l per 15 kg bag.
- First pour the water into the container, and then add the adhesive slowly.
- Mix with an electric mortar mixer at low speed (500 rpm) until you get a creamy, even and lumpless mass.
- Leave to rest for 5-10 minutes.
- Stir with the trowel and apply.

## Applying the adhesive.

In laying ceramic tiles or similar, the only recommended technique for the **super-flex S2** adhesive is the thin-bed method with 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 grooves of the adhesive in a homogeneous and linear way. It is recommended to apply the adhesive perpendicular to the long side of the tile.
- 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 large formats, outdoor installation, radiant heating floors, heavy traffic or overlaying, the level of contact must be 100%, so we recommend 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.

## Putting into service.

Let the mortar set for a minimum of 24 hours before sealing the installation joints or allowing transit on a floor laid with **super-flex S2**. Adverse environmental factors can delay the hardening of the adhesive, so if in doubt, wait for 36 hours.

## 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 the tiling joints, we recommend the technical mortars professional range 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 a general rule, we do not recommend to leave tiling joints narrower than 1.5 mm indoors and 5 mm outdoors. Currently, there is a wide variety of spacers to ease the tile setter's job, but we specially recommend butech's self-leveling spacers, which, apart from marking the joint width, avoid the appearance of hedges between tiles and tiling defects.

## Coverage

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|--------------------------|-------------------------|
| • 4 x 4 Notched trowel   | 1-2 kg / m <sup>2</sup> |
| • 6 x 6 Notched trowel   | 2-3 kg / m <sup>2</sup> |
| • 8 x 8 Notched trowel   | 3-4 kg / m <sup>2</sup> |
| • 10 x 10 Notched trowel | 4-5 kg / m <sup>2</sup> |
| • 12 x 12 Notched trowel | 5-6 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. Extreme caution with anti-slip floors, absorbent stones or relieved surface tiles.
- In case of mortar stains, we recommend to use acid net, building debris cleaner. We recommend performing a preliminary test.
- Once laid, rinse the tool generously with water before it hardens.
- Refer to the maintenance instructions of the supplier of the covering used.

## Preservation

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

## Health and safety

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Contains hydraulic binders which in contact with sweat or other body fluids can produce a slightly irritant alkaline reaction. MSDS available for professionals upon request.

## Warnings

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- The only laying technique recommended is the thin-bed method with notched trowel. Do not use **super-flex S2** 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 a 100% contact between tile and substrate: outdoors, radiant heating floors, with heavy traffic or overlaying.
- **super-flex S2** is an adhesive for professional use. Scrupulously follow all the indications about preparation and application of 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.
- The use of **super-flex S2** 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 wind, moisture and temperature conditions at the work site, so the working times indicated in this sheet can change in relation to those where the laying 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. Here, we recommend to sweep again the **super-flex S2** until you get the surface adherence back.
- Protect from rain and frost at least during the first 24 hours.
- Do not apply when temperature is below +5°C or above + 35°C.
- On outdoor floors, make slopes to ensure correct water drainage.
- When laying mesh backed glass mosaic, check that the adhesive goes through the mesh and contacts the mosaic pieces.
- **super-flex S2** is a cement-based adhesive, so when in contact with sulfates and in damp environments, it can produce ettringite. When directly laying on plaster or anhydrite, we recommend to spread a layer of uniprim on the installation surface.
- For outdoor coverings, we recommend the use of mechanical fixing from 30 x 30 cm formats. In any case, follow local instructions for installation of coverings in facades.
- When laying natural stones likely to get stained, we recommend to use the fast-setting adhesive super-one blanco.
- When laying slate or other natural stones likely to lose shape because of moist absorption, we recommend to check 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**.
- 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**.
- The layout, width, and construction details of the perimetral 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. General tips:
  - Respect all the structural joints present in the substrate.
  - Make perimetral movement joints in corners, level changes in the floor and at the height of changes of material.
  - As a general rule, make intermediate movement joints which delimit areas as square as possible of 16-25 m<sup>2</sup> outdoors and 50-70 m<sup>2</sup> indoors. They must have a minimum width of 8 mm.
- The technical information included in this data sheet has been gathered from tests at certified laboratories and in the conditions stated by the relevant standards.
- For further information about this product, refer to the **Technical Department at butech**.

## Data Sheet Conditions

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- This data sheet does not describe a finished product; it is a fixing material which, together with other products and materials, determines a ceramic tiles laying system. Instructions in this technical sheet have been written based on our experience and technical expertise, but they have to be considered as general recommendations, which together with those for the rest of the products in the system, help the tile-laying professionals in the performance of 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
Dangerousness	Irritant (see material safety data sheet)
Flammability	No
Preservation time	12 months in a dry place
Water proportion	40 %
Powder specific weight	0.84 g/cm <sup>3</sup>
Paste density	1.34 g/cm <sup>3</sup>
Application temperature	from +5° C to +35° C
Open time	30 min.
Adjusting time	30 min.
Service life	8 h.
Wait for grouting	24 - 36 h.
Walkability	24 - 36 h.
Final commissioning	15 days

<b>Adherence as per EN 12004:</b>	
28 days	> 1.5 N/mm <sup>2</sup>
Action of heat	> 1.5 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 under laboratory conditions, at 23° C and 50% relative moisture.

## References

SAP	Product description	Packaging	Palletising
100142757	super-flex S2	15 kg bag	600 kg/pallet