one-flex pro

one-flex pro is a type C2 TE S1 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.

one-flex pro is an advanced, high-performance adhesive, with an excellent adherence and flexibility, suitable for the most difficult installations, such as high traffic floors, radiant heating floors, or facades. Its performance and ease of application make it the ideal solution for the most demanding professionals. Specially recommended for laying rectified tiles.

Recommended use

- Indoor large format ceramic tile coverings.

- Indoor and outdoor porcelain tile coverings.

- High traffic floor tiles.

- Floor tiles on radiant heating.

- Pools and damp environments.

- On bonded facades, replace mixing water with unilax **additive**.

Materials

- Large format ceramics.

- Porcelain tiles (water absorption < 0.5% as per EN-ISO 10545-3).

- Glass mosaic.

- Natural stone and marble not prone to staining.

Substrates

- 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**.

- On anhydrite or plaster substrates, apply **uniprim**.

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

Characteristics

- Cement-based, single component adhesive.

- Excellent adherence. Flexible.

- Fine texture mortar, with excellent mixing and application features.

- High initial adherence and no sagging. Thixotropic.

- Extended working times. Open time higher than 30 min.

- Application thickness up to 6 mm.

- Frost-resistant.

- High performance:

  White: 8.25 – 8.75 l of water per 25 kg bag.
  Grey: 7.75 - 8.25 l of water per 25 kg bag.

CE

EN 12004

Certifications / Standards

Certifié CSTB Certified:	CSTB: 2418-222 MC 517
EN 12004	C2 E S1

QB

Instructions for use

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 the case of substrates of over 40 mm, and in order to reduce structural movement tensions, we recommend decoupling the substrate using a polyethylene sheet, 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 humidity under 3%.
- Clean of 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.

In very absorptive or inconsistent substrates, it is recommended to apply a primer to strengthen the substrate cohesion and reduce water absorption. We recommend using uniprim, primer based on synthetic resins.

Preparing the adhesive.

one-flex pro 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. The following are the instructions for preparing this adhesive:

- Use clean containers and tools.
- Mix with clean water with a ratio of:
  - **one-flex pro white**   34% : 8.25-8.75 liters / 25 kg bag.
  - **one-flex pro grey**   32% : 7.75-8.25 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 5-10 minutes.
- Stir with a hand trowel, and apply.

Applying the adhesive.

For laying ceramic tiles or similar, the only recommended technique for **one-flex pro** 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 6 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 installation joints or allowing transit on a floor laid with **one-flex 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 installation 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.

Performance

6 x 6 Notched trowel	3 kg / m^2
8 x 8 Notched trowel	4 kg / m^2
10 x 10 Notched trowel	5 kg / m^2
20 x 30 cm Tile	3 kg / m^2
30 x 30 cm Tile	3 kg / m^2
30 x 60 cm Tile	4 kg / m^2
44 x 44 cm Tile	4 kg / m^2
30 x 90 cm Tile	5 kg / m^2
44 x 66 cm Tile	5 kg / m^2
60 x 60 cm Tile	6 kg / m^2
60 x 120 cm Tile	6 kg / m^2

Cleaning and maintenance

- 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 **acid-net** construction debris cleaner. 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.

Conservation

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

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.

Additional instructions

- The only recommended laying technique is laying the tiles on a thin layer with a notched trowel. Do not use **one-flex 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^2 and applications where you need 100% contact between the ceramic and the substrate: outdoor settings, radiant floors, with heavy traffic, or overlappings.

- **one-flex 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 **one-flex pro** with a thickness greater than 6 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 **one-flex 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.

- The adhesive **one-flex 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, we recommend applying a layer of **uniprim** on the laying surface.

- On outdoor wall coverings, mix with **unilax**. As a general rule, 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** white.

- 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**.

- 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 perimeter and intermediate movement joints, as well as the materials to be used, should be included in the ceramic tile laying design.

- 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^2 outdoors, and 50 m^2 -70 m^2 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

- 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 June, 2017.

Technical data

Appearance	Grey or white powder
Hazard	Irritant (see material safety data sheet)
Flammability	No
Storage time	12 months in a dry place
Proportion of water / **one-flex pro** white	34%
Proportion of water / **one flex n** grey	32%
Specific weight	1.3 g/cm^3
Application temperature	from 5 ° C to 35 ° C
Open time	30 min.
Setting time	50 min.
Durability	> 6 h.
Wait for grouting	24 - 36 h.
Trafficability	24 - 36 h.
Final commissioning	15 days
Thixotropy	Yes
Sagging	< 0.5 mm

Adherence as per EN 1348:	
28 days	> 1 N/mm²
Action of heat	> 1 N/mm²
Immersion	> 1 N/mm²
Freeze/thaw cycles	> 1 N/mm²
Deformability as per EN 12002	2.5 mm ≤ D < 5 mm
Heat resistance	-30 ° C up to 100 ° C

Data obtained in standard laboratory conditions of at 23° C and 50% relative humidity.

References

KEA	SAP	Product description	Packaging	Palletizing
B12909031	100201544	**one-flex pro white**	25 kg bag	1000 kg / pallet
B12909032	100201689	**one-flex pro grey**	25 kg bag	1000 kg / pallet