SUPERFLEX K77

HIGH PERFORMANCE DEFORMABLE NON-SLIP WHITE OR GREY CEMENTITIOUS ADHESIVE WITH EXTENDED OPEN TIME PARTICULARLY SUITABLE FOR LAYING LARGE SIZE PORCELAIN STONE AND NATURAL STONE. SUITABLE FOR INSTALLATION OVER EXISTING TILES AND HEATED FLOORS.

DESCRIPTION

A white or grey powder Portland cement-based adhesive, whose inert fillers with selected particle size and specific organic additives offer the product excellent water retention features, good deformation ability and non-slip properties. When mixed with water, a mortar is obtained with excellent application properties and extended open time. The product hardens without any significant shrinkage, creating excellent adhesion between ceramic tiles and substrates commonly used in the building sector.

ADVANTAGES

• Product with low emission level of volatile organic compounds (VOC), classified as A+ (French Regulation).
• One-component, deformable product (class S1 as per EN12002). • Maintains excellent workability over time, without any bothersome thickening.
• The special additives offer the product a very creamy texture and facilitate application using a notched trowel.
• The adhesive mortar is highly thixotropic, allowing ceramic tiles and mosaics to be laid on walls without the need for plastic spacers.

EN 12004 and EN 12002 CLASSIFICATION

Superflex K77 is a high-performance cementitious adhesive with no vertical slip, class C2TE extended open time as per EN 12004 and class S1 deformation ability as per EN 12002, for interior and exterior floor and wall ceramic tiling. The product's compliance with EN 12004 regulations is reported on the Performance Declaration CPT-IT013G (grey) and CPR-IT013B (white), as per the European Construction Products Regulation (CPR) No. 305/2011/EU, and tested by a European body notified as per certification system 3.

PACKAGING

25 kg bags - Standard pallet 1200 kg

INTENDED USE

Suitable for laying any types of ceramic tiles and natural stone (stable to humidity) for interiors and exteriors, walls and floors. Particularly suitable for laying large size porcelain stone also on uneven surfaces up to a maxium thickness of 5 mm. Thanks to the high content of polymeric resins, this product can be used on heated flooring and for installation over existing tiles. The product also features an extremely high thixotropy which makes it suitable for laying tiles on walls thanks to its non-sag properties and without the need for spacers. The product can also be used for "point-gluing" insulating panels made of polystyrene, aerated polyurethane, cork, rock wool. In particular, Superflex K77 can be used to lay all types of ceramic tiles, natural stone that is not sensitive to moisture, glass mosaics in the following environments.

Interior floors in residential and public/commercial buildings (walking areas)	
Substrates	**Longest allowable tile side (cm)**
Cement-based or Litocem/Litocem Pronto-based screeds without heating	> 120
Cement-based or Litocem/Litocem Pronto-based screeds with heating	≤ 120
Sulphate-based (anhydride) screeds without heating (1)	> 120
Sulphate-based (anhydride) screeds with heating (1)	≤ 120
Concrete made in operation (2)	> 120
Prefabricated concrete	≤ 60
Pre-existing substrates made of existing tiles, mosaics, stone, agglomerate floors (3)	≤ 120
Pre-existing substrates with organic adhesive residue (4)	≤ 120
Substrates treated with Litoproof	≤ 120
Substrates treated with Hidroflex, Aquamaster, Elastocem, Coverflex	≤ 120

Interior floors in public/commercial and industrial buildings bearing heavy loads	
Substrates	**Longest allowable tile side (cm)**
Cement-based or Litocem/Litocem Pronto-based screeds without heating	≤ 120
Concrete made in operation (2)	> 120
Prefabricated concrete	≤ 60
Pre-existing substrates made of existing tiles, mosaics, stone, agglomerate floors (3)	≤ 120
Pre-existing substrates with organic adhesive residue (4)	≤ 120
Substrates treated with Litoproof	≤ 120
Substrates treated with Hidroflex, Aquamaster, Elastocem, Coverflex	≤ 120

Interior walls in residential, public/commercial and industrial buildings	
Substrates	**Longest allowable tile side (cm)**
Lime/cement-based plaster	> 120
Gypsum-based plaster (1)	> 120
Concrete made in operation (2)	> 120
Prefabricated concrete	> 120
Pre-existing substrates made of existing tiles, mosaics, stone (3)	≤ 120
Substrates treated with Litoproof	≤ 120
Substrates treated with Hidroflex, Aquamaster, Elastocem, Coverflex	≤ 120
Fibrocement and cement-based panels	≤ 120
Waterproof and non-waterproof gypsum board (5)	≤ 90
Elements in autoclaved aerated concrete (6)	≤ 90
Thermal insulated and soundproof panels - Lightweight panels	≤ 90

Exterior floors in residential, public/commercial and industrial buildings	
Substrates	**Longest allowable tile side (cm)**
Cement-based or Litocem/Litocem Pronto-based screeds without heating	≤ 120
Concrete made in operation (2)	≤ 120
Prefabricated concrete	≤ 60
Pre-existing substrates made of existing tiles, mosaics, stone, agglomerate floors (3)	≤ 120
Substrates treated with Aquamaster, Elastocem, Coverflex	≤ 120
Resin-treated substrates, treated on the surface with a dry-shake finish of quartz	≤ 120

Exterior walls	
Substrates	**Longest allowable tile side (cm)**
Lime/cement-based plaster	≤ 90
Concrete made in operation (2)	≤ 90
Prefabricated concrete	≤ 90
Pre-existing substrates made of existing tiles, mosaics, stone, agglomerate floors (3)	≤ 30
Substrates treated with Aquamaster, Elastocem, Coverflex	≤ 90
Fibrocement panels	≤ 60

KEY:
1-After treatment with Primer C or Primer X94.
2-Maturing time: minimum 6 months.
3-After cleaning and degreasing with a solution of water and caustic soda.
4-After treatment with Prepara Fondo (adhesion promoter).
5- After treatment with Primer C or Primer X94 for not waterproof plasterboard.
6- After treatment with Primer X94.

INSTALLATION PLANNING

The only way to guarantee the long-lasting performance of ceramic installations is to properly plan the process. We therefore recommend that national regulations currently in force in each country be carefully read, for example UNI 11493:2013 for Italy, which provides all necessary instructions regarding the choice of materials, correct planning, use and installation, so as to ensure all quality, performance and durability standards are safely met. When laying large-sized tiles or thin laminated porcelain stone slabs, we recommend paragraphs 7.13.8 and 7.13.9 of regulation UNI 11493 be carefully read. Moreover, certain producers of thin slabs provide installation manuals indicating the adhesive classes that need to be used depending on the size, characteristics and intended use of the slabs.

Some of the general precautions that need to be followed are provided as an example:

Substrates - Before installation, check that the substrates are clean, free of loose fragments, properly dried and cured, flat and level, and that mechanical resistance requirements based on the intended use have been met.

Worksite conditions - Check the suitability of temperature, humidity, light conditions etc. at the time of the product's application.

Materials - Check that all materials used for tiling (ceramic materials,

levelling systems, adhesives, sealants, waterproofing products, etc.) are suitable for the intended use and have been correctly stored.

Expansion joints - Check that elastic perimeter seals, expansion joints, divider and structural joints have been properly designed and included. Divider joints are normally needed for 20/25 m^2 sections in interiors, and 9 m^2 sections in exteriors. For exteriors, make sure joints are properly waterproofed and sealing.

Back-buttering - For exterior installations, large-size tiles, floors with intense or heavy traffic, vibrating supports and situations exposed to high temperature fluctuations, the adhesive mortar must be applied the to both substrate and the back of the tiles so as to obtain a full layer of adhesive without any air pockets.

Joints - In any type of ceramic tiling the joints must have a suitable width, which will be based on the following parameters:

• type, format and size tolerance of tiles;
• thermal expansion coefficients of materials constituting the installation;
• mechanical properties of installation materials;
• position and trajectory of joints;
• mechanical properties of substrate;
• environment of use and expected operating conditions.

Butt joints **are not allowed.** Any plastic spacers must be removed before grouting.

MIXING RATIOS

SUPERFLEX K77 25 kg. (1 bag)
Water 8-8,5 l (32-34%)

MIX PREPARATION

Put the correct quantity of water into a clean container and slowly add the powder. Mix with an electric drill equipped with mixing paddle until a uniform, lump-free mix is obtained. Leave the mix to rest for at least 5 minutes then re-mix briefly for a few second

APPLICATION

Spread the paste onto the substrate using the smooth part of the trowel to create a layer approximately 1 mm thick. Immediately afterwards, comb the product onto the surface using the notched part of the trowel. The trowel notch size will depend on the size of the tiles. In any case, consider that 65-70% of the reverse side of tiles needs to be covered for interior installations, and 100% for exterior installations or floors subject to heavy traffic. In exterior installations, areas subject to high stress or areas where thin laminated porcelain stone slabs are installed, it is recommended to also apply the adhesive to the back of the tiles (back-buttering method). The tiles must be placed on the adhesive and pressed firmly to ensure good contact. The product's open time in normal temperature and humidity conditions is 30 minutes. In very warm or windy climates, or in the case of particularly absorbent substrates, the open time may be drastically reduced to just a few minutes. It is therefore recommended to regularly check that the adhesive has not skinned over. If this occurs, the surface of the adhesive will need to be combed again using the trowel. Tiles must be laid with joints of a suitable width. During installation, take any expansion, perimeter, divider or structural joints into account. The tiled surface must be protected for at least 24 hours against any water infiltration, and for approximately 5-7 days against any frost and direct sunlight. In the case of mosaics mounted on adhesive paper or film, this must not be removed until at least 24 hours after installation once the adhesive has properly hardened, to prevent the detachment of the tiles.

GROUTING

Joints can be grouted after approximately 6-8 hours in wall installations and after 24 hours in floor installations. Cementitious grouts can be used such as Litochrom 0-2, Litochrom 1-6, Litochrom 3-15**,** water-reacting polyurethane resin-based grouts such as Monomix**,** or two-part epoxy grouts such as Expoxystuk X90 or Starlike®.

WARNINGS

• Do not add lime, cement or other foreign materials to the product.
• Apply the product at a temperature between +5°C and +35°C.
• Respect the mixing ratio.
• For exterior wall installations where tiled surfaces have a high vertical slip (> 3m) subject to high levels of tension for thermal expansion due to the variations in air temperature and relative humidity, and considering the safety risks posed by any eventual detachments, it is recommended to consult the Litokol S.p.A technical help service in order to precisely define the safest type of installation.
• Do not apply the product directly onto plastic, elastic, wooden, metal materials or resin-treated substrates without a dry-shake finish of quartz. In these cases, treat the substrates beforehand with the Prepara Fondo one-component adhesion promoter.
• If laying glass mosaics metalized on the back, always perform an initial test to check for the appearance of any oxidation due to the alkaline pH of the adhesive. If in doubt, contact the Litokol S.p.A technical help service.
• Do not use the product to create layers more than 5 mm thick.
• Do not use the product on floors that need to be quickly walked on.
• Do not use the product for applications not stated in this technical data sheet.
• If in doubt, contact the Litokol S.p.A technical help service.

SAFETY INFORMATION

Consult the Material Safety Data Sheet, available on request.

PRODUCT FOR PROFESSIONAL USE

ITEM SPECIFICATION

Interior and exterior ceramic floor and wall coverings, including large-sized tiles, natural stone that is not sensitive to moisture, thin laminated porcelain stone, glass mosaics or ceramic tiles, will be installed using an improved cementitious adhesive with no vertical slip and class C2TE extended open time as per standard EN 12004, with class S1 deformation ability as per standard EN 12002 type Superflex K77 by Litokol S.p.A.

IDENTIFICATION DATA

Appearance	Powder
Colour	White and Grey
Classification to EN 12004	C2TE – Enhanced non-slip cementitious adhesive with extended open time
Classification to EN 12002	Class S1 deformable adhesive
Customs code	3824 5090
Shelf life	12 months in original packaging in dry place

APPLICATION DATA

Mixing ratios	Water = 32-34% (8-8.5 L per 25kg bag)
Maturing time	5 minutes
Mix consistency	Very creamy
Pot life	Over 8 hours
Application temperature	From +5°C to +35°C
Open time (EN 1346)	≥ 0.5 N/mm^2 after 40minutes
Maximum applicable thickness	5 mm
Adjustability time	About 40 minutes
Consumption	6 mm trowel: 2.5 kg/m^2 10 mm trowel: 4 kg/m^2 Back-buttering: 5.5 kg/m^2
Walk on time	24 hours
Ready for use	14 days
Ready for grouting	Floor: about 24 hours - Wall: about 6-8 hours

PERFORMANCE

Bonding strength after 28 days (EN 1348)	≥ 1 N/mm²
Bonding strength after immersion in water (EN 1348)	≥ 1 N/mm²
Bonding strength after action of heat (EN 1348)	≥ 1 N/mm²
Bonding strength after freeze-thaw cycles (EN 1348)	≥ 1 N/mm²
Trasverse deformation (UNI EN 12002)	≥ 2,5 mm
Temperature of use	From – 30°C to +90°C
Resistance to acids	No
Resistance to alkalis	Good

Sheet no. 013
Revision no 3
Date: May 2017

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