

UserCatalogue

For building industry professionals

LITOKOL®

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ITALY - Rubiera

Litokol, whose name derives from the Greek word “lithos” meaning stone, was established in 1968 and developed and expanded in one of the most important ceramics districts in the world. The company soon demonstrated a flair for innovative solutions for laying and was one of the first in the sector to break boldly onto the global markets. Litokol’s distribution network has gradually expanded both in Italy and abroad with

a comprehensive range of products and solutions that has grown in line with the company’s structure. Litokol, at its 20,000 sq.m base in Rubiera (RE), owns various laboratories, two automated storage systems, a training centre, an exhibition room and offices for its sales and administrative division.



Litokol S.p.A. applies a **quality system** certified by DNV compliant with **ISO 9001**.



SITES AROUND THE WORLD

Due to its gradual process of internationalisation over the years, exports now account for 85% of Litokol’s turnover and the company has direct relations with commercial companies and production facilities in 4 countries:



RUSSIA - Litokol o.o.o

An industrial complex, measuring 9,500 sq.m and equipped with the latest generation Italian machinery and technology, stands in an area of 22,000 sq.m in Noginsk, 60 km outside Moscow. Production at this site began in 2002: Litokol was the first foreign company to be granted permission by the Russian authorities to occupy the area where the facility now stands. The commercial offices, are located in the centre of Moscow. Just over a decade since its creation, Litokol has become a leading company on the market, with an extensive range of products where local production is combined with true Italian know-how. Due to the sheer scale of the Russian market, the commercial strategy over the past few years has been to set up 26 branches with offices and storage facilities throughout the country, from St Petersburg to Vladivostok.



ARMENIA - Litokol AM

Litokol AM is situated at an important road junction connecting the capital of Armenia, Yerevan, to nearby Georgia. The ultra-modern site, standing in an area of 8,000 sq.m (of which 4,000 sq.m are covered), is equipped with a hybrid plant for the production of adhesives, cement-based pre-mixed products and gypsum-based plaster, and a sand grounding and drying system. Thanks to its strategic position at the heart of the Caucasus and easy access to the Eurasian regions, Litokol AM can promote its range of products based on true Italian technology in an area of fast building industry development, strengthening its position as a leading company in the sector.



UKRAINE - Litokol Plus

Litokol Plus is a commercial company with its own management offices and warehouses in an area covering 5,500 sq.m in a strategic position at the centre of Kiev. It has introduced the entire range of products to the Ukrainian market and provides support and technical assistance to customers and distributors throughout the country. Litokol was the first western company in the sector to have invested in this area with its own commercial structure, obtaining excellent results from the onset. It now has a qualified commercial team formed of area managers and local distributors responsible for market development. The company also organises periodic technical training sessions and seminars on-site for professionals in the sector.



CHINA - Litokol Shanghai Trading Company

The trading company in Shanghai started up in 2012. The technical-sales team at the site provides technical assistance and training for professionals in the sector. The offices are situated on the thirty-third floor of an ultra-modern skyscraper in a commercial district near the beating heart of the metropolis. Litokol Shanghai, with its logistics unit and stock of products on-site, is the perfect base from which to reach not only the Chinese market but also the entire area of the Far East.



TECHNOLOGY

At our site in Italy, as at our ones abroad, the production systems are divided according to product lines and are constantly updated with modern, state-of-the-art solutions. There are currently eight production and packaging lines in use at the three sites in Rubiera for pre-mixed cement-based products and adhesives, cement-based grout, one-part dispersion adhesives, one-part waterproofing membranes, additives, and primers.

In addition, there are four fully automated production and packaging machines dedicated to the entire Starlike® range. These new generation plants, based on Litokol's many years of knowledge and expertise, automatically meter the raw materials during the production phase and increase the efficiency of packaging.

With regard to the automated warehouse, there is a state-of-the-art shelving system on tracks that exploits up to 70% of all available space. In 2009, warehouse management was optimised with a logistics management program that reads bar codes to track all movements of stock and to facilitate collection and loading operations.



LABORATORY

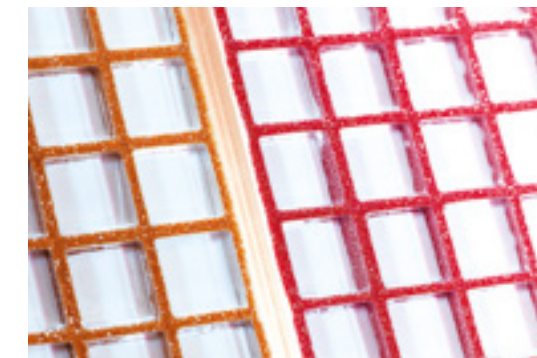
Litokol has a Research and Development Laboratory equipped with technologically advanced instruments. These include a cell for testing the light resistance of coloured epoxy mortar, automated hydraulic presses to determine mechanical resistance, and electromechanical dynamo meters for measuring the adhesive capacity of glues. It is here that the quality of the company's products is tested in accordance with the requirements of the international quality management standard UNI EN ISO 9001, and research and development are carried out as per the harmonised European product standards. We also collaborate with various academic bodies and research institutes in Italy.



TRAINING CENTRE

In 2008, Litokol set up a Training Centre in Rubiera for the constant professional training of its staff, clients and sales network.

This new facility, which covers more than 1,000 sq.m, comprises an exhibition room, meeting room, a training centre and a large terrace for events and receptions. The technical staff regularly organise technical-commercial training meetings and themed seminars on the various laying techniques. The facility hosts on average about 200 meetings a year, bringing together as many as 4500 people.



THE PRODUCT RANGE

- Substrate preparation products
- Powder adhesives
- Dispersion and reaction adhesives
- Products to grout and clean
- Two-part epoxy grout
- Silicon sealants
- Waterproofing products
- Products for parquet floors
- Laying accessories
- Profiles



UNI EN ISO 11600

Building - Products for joints - Classifications and requirements for sealants

UNI EN 14411

Ceramic tiles - Definitions, classification, features, conformity and marking evaluation

UNI EN 12004

Adhesives for tiles - Requirements, conformity evaluation, classification and designation

UNI EN 13888

Sealants for tiles - Requirements, conformity evaluation, classification and

UNI EN 13813

Screeds and materials for screeds - Materials for screeds - Properties and requirements

UNI EN 14891

Liquid applied waterproofing products for use beneath ceramic tiling bonded with adhesives
Requirements, test methods, evaluation of conformity, classification and designation.

UNI EN 998-1

Specifications for mortar for masonry - Part 1: mortar for internal and external plaster

UNI EN 1264 (all parts)

Water fed radiant systems for heating and cooling integrated into the structures.

Water absorption of ceramic tiles (UNI EN 14411)

Below is a table for the correct distinction between products with $AA \leq 3\%$ and $AA > 3\%$ with reference to the class listed on the package

	%AA	Corresponding Classes
$\leq 3\%$	$AA \leq 0,5\%$	Ala
	$0,5\% < AA \leq 3\%$	Alb
	$AA \leq 0,5\%$	Bla
	$0,5\% < AA \leq 3\%$	Blb

	%AA	Corresponding Classes
$> 3\%$	$3\% < AA \leq 6\%$	Alla
	$6\% < AA \leq 10\%$	Allb
	$AA > 10\%$	Alll
	$3\% < AA \leq 6\%$	Blla
	$6\% < AA \leq 10\%$	Bllb
	$AA > 10\%$	Blll

The standard specifies the requirements for materials for screeds to be used in the construction of inside flooring. The different types of materials are identified as:

CT cementitious screeds **MA** magnesite based screeds **SR** synthetic resin based screeds
CA calcium sulphate based screeds **AS** mastic asphalt screeds

The C compression strength and the F flexural strength of the products are defined according to the following tables which show the resistance classes expressed in N/mm².

Classes	C5	C7	C12	C16	C20	C25	C30	C35	C40	C50	C60	C70	C80
Compressive strength in N/mm ²	5	7	12	16	20	25	30	35	40	50	60	70	80

Classes	F1	F2	F3	F4	F5	F6	F7	F10	F15	F20	F30	F40	F50
Flexural strength in N/mm ²	1	2	3	4	5	6	7	10	15	20	30	40	50

CEMENTITIOUS

TIPO	CLASSE
C	1 F S1 S2 T E
	2 F S1 S2 T E
KEY	
C1	normal setting Cementitious adhesive
C2	improved Cementitious adhesive
F	Fast (adherence ≥ 0.5 N/mm ² after not less than 6 hours)
S1	deformable adhesive (cementitious only) ($2,5 \text{ mm} \leq S1 < 5 \text{ mm}$)
S2	highly deformable adhesive (cementitious only) ($S2 \geq 5 \text{ mm}$)
T	reduced slip ($\leq 0,5 \text{ mm}$)
E	Extended open time ($\geq 0.5 \text{ N / mm}^2$ after not less than 30 min)

DISPERSION

TYPE	CLASSES
D	1 T E
	2 T E
KEY	
D1	normal Dispersion adhesive
D2	improved Dispersion adhesive
T	reduced slip ($\leq 0,5 \text{ mm}$)
E	Extended open time ($\geq 0.5 \text{ N / mm}^2$ after not less than 30 min)

REACTION

TYPE	CLASSES
R	1 T
	2 T
KEY	
R1	normal Reaction resin adhesive
R2	improved Reaction resin adhesive
T	reduced slip ($\leq 0,5 \text{ mm}$)

CEMENTITIOUS

TYPE	CLASSES
CG	1 - -
	2 W A
KEY	
CG1	normal Cementitious Grout
CG2	improved Cementitious Grout
W	reduced Water absorption
A	high Abrasion resistance

REACTION

TYPE	CLASSES
RG	-
KEY	
RG	Reaction resin Grout

Classification of liquid-applied waterproofing products to use beneath ceramic tiling bonded with adhesives according to the Standard UNI EN 14891

Liquid-applied waterproofing products are classified into three types:

CM normal cementitious liquid-applied waterproofing products

DM normal dispersion liquid-applied waterproofing products

RM normal reactive liquid-applied waterproofing products

For each type it is possible to have multiple classes, related to the various optional features, such classes are designated by the following abbreviations::

01 with improved crack-bridging ability at low temperatures (-5°C);

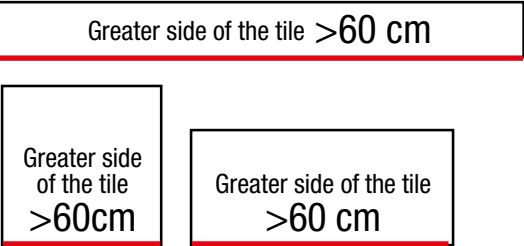
02 with improved crack-bridging ability at very low temperatures (-20°C);

P resistant to contact with chlorinated water (for example for use in swimming pools).

The product is designated with the symbol of the type (CM, DM or RM), followed by of the class or classes to which it belongs.

■ Ceramic tiling to
the floor and the
wall: instructions
for the design,
installation and
maintenance

The standard UNI 11493:2013 in force in Italy which
provides the necessary guidelines for choosing materials,
proper design, use and installation of ceramic tiling defines
large format tiles as those with a side length greater
than 60 cm.



LITOKOL®



Synoptics for the choice of adhesives





PRODUCTS	TYPE OF SUBSTRATE												
	CLASSIFICATION ACCORDING TO EN 12004 - EN 12002	CEMENTITIOUS SCREED OR LITOCEM BASED WITHOUT HEATING SYSTEM	CEMENTITIOUS SCREED OR LITOCEM BASED WITH HEATING SYSTEM	SULPHATE BASED SCREED (ANHYDRITE) WITHOUT HEATING SYSTEM (1)	SULPHATE BASED SCREED (ANHYDRITE) WITH HEATING SYSTEM (1)	CONCRETE CAST IN-SITU (2)	PRECAST CONCRETE	PRE-EXISTING SUBSTRATES MADE OF OLD TILES, MOSAICS, STONE OR TILES (3)	PRE-EXISTING SUBSTRATES MADE OF PARQUET, PVC, RESIN	PRE-EXISTING SUBSTRATES WITH RESIDUES OF ORGANIC ADHESIVES (4)	WATERPROOF SUBSTRATES WITH LITOPROOF	WATERPROOF SUBSTRATES WITH HIDROFLEX, ELASTOCEM, COVERFLEX	WOODEN OR METAL SURFACES
	GREATER SIDE OF THE TILES (cm)												
LITOKOL K17/K18	C1	≤ 30	-	≤ 30	-	-	-	-	-	-	-	-	-
CEMENTKOL K21/K22	C1	≤ 30	-	≤ 30	-	-	-	-	-	-	-	-	-
LITOBLANC K2	C1T	≤ 30	-	≤ 30	-	-	-	-	-	-	-	-	-
LITOKOL X11/X12	C2TE	≤ 60	≤ 30	≤ 60	≤ 30	≤ 60	-	≤ 30	-	≤ 30	≤ 30	≤ 30	-
LITOFLEX K80	C2E	≤ 120	≤ 90	≤ 120	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
LITOFLEX K80 EXPORT	C2TE	≤ 120	≤ 90	≤ 120	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
LITOPUS K55	C2TE	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	-	≤ 30	≤ 30	≤ 30	-
SUPERFLEX K77	C2TE-S1	> 120	≤ 120	> 120	≤ 120	> 120	≤ 60	≤ 120	-	≤ 120	≤ 120	≤ 120	-
LITOFAST K86	C2FT	≤ 120	≤ 90	≤ 120	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
LITOSTONE K 99	C2FE	≤ 120	≤ 90	≤ 120	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
LITOFLOTT K88	C2FE	≤ 120	≤ 90	≤ 120	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
CEMENTKOL K21/K22 + LATEXKOL diluted 1:1 with water	C2-S1	> 120	≤ 120	> 120	≤ 120	> 120	≤ 60	≤ 120	-	≤ 120	≤ 120	≤ 120	-
CEMENTKOL K21/K22 + LATEXKOL	C2-S2	> 120	> 120	> 120	> 120	> 120	≤ 90	> 120	-	> 120	> 120	> 120	-
LITOACRIL FIX	D1E	≤ 30	-	≤ 30	-	-	-	-	-	-	-	-	-
LITOACRIL LA315/LA201	D1TE D1T	≤ 30	-	≤ 30	-	-	-	-	-	-	-	-	-
ADESIVO UNIVERSALE LK78	D1E	≤ 30	-	≤ 30	-	-	-	-	-	-	-	-	-
LITOACRIL PLUS	D2TE	≤ 30	-	≤ 30	-	-	-	-	-	-	-	-	-
LITOELASTIC	R2T	> 120	> 120	> 120	> 120	> 120	≤ 90	> 120	> 120	> 120	> 120	> 120	≤ 90

KEY:
1 - After treatment with Primer C or Primer X94 for cementitious adhesives (C). Maximum humidity=0.5%
2 - Maturing time: minimum 6 months
3 - After cleaning and degreasing with a solution of water and caustic soda
4 - After treatment with Litofix for cementitious adhesives



PRODUCTS	TYPE OF SUBSTRATE									
	CLASSIFICATION ACCORDING TO EN 12004 - EN 12002	CEMENTITIOUS SCREED OR LITOCEM BASED WITHOUT HEATING SYSTEM	CONCRETE CAST IN-SITU (1)	PRECAST CONCRETE	PRE-EXISTING SUBSTRATES MADE OF OLD TILES, MOSAICS, STONE OR TILES (2)	PRE-EXISTING SUBSTRATES MADE OF RESILIENT MATERIALS OR RESIN	PRE-EXISTING SUBSTRATES WITH RESIDUES OF ORGANIC ADHESIVES (3)	WATERPROOF SUBSTRATES WITH LITOPROOF	WATERPROOF SUBSTRATES WITH HIDROFLEX, ELASTOCEM, COVERFLEX	METAL SURFACES
	GREATER SIDE OF THE TILES (cm)									
LITOKOL X11 / LITOKOL X12	C2TE	≤ 60	≤ 90	-	≤ 30	-	≤ 30	≤ 30	≤ 30	-
LITOFLEX K80	C2E	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
LITOFLEX K80 EXPORT	C2TE	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
SUPERFLEX K77	C2TE-S1	≤ 120	> 120	≤ 60	≤ 120	-	≤ 120	≤ 120	≤ 120	-
LITOFAST K86	C2FT	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
LITOSTONE K99	C2FE	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
LITOFLOTT K88	C2FE	≤ 90	> 120	≤ 30	≤ 90	-	≤ 90	≤ 60	≤ 60	-
CEMENTKOL K21/K22 + LATEXKOL diluted 1:1 with water	C2-S1	≤ 120	> 120	≤ 60	≤ 120	-	≤ 120	≤ 120	≤ 120	-
CEMENTKOL K21/K22 + LATEXKOL	C2-S2	> 120	> 120	≤ 90	> 120	-	> 120	> 120	> 120	-
LITOELASTIC	R2T	> 120	> 120	≤ 90	> 120	> 120	> 120	> 120	> 120	≤ 90

KEY:
1 - Maturing time: minimum 6 months
2 - After cleaning and degreasing with a solution of water and caustic soda
3 - After treatment with Litofix for cementitious adhesives



PRODUCTS	TYPE OF SUBSTRATE												
	CLASSIFICATION ACCORDING TO EN 12004 - EN 12002	LIME/CEMENT PLASTER	GYPSUM PLASTER (1)	CONCRETE CAST IN-SITU (2)	PRECAST CONCRETE	PRE-EXISTING SUBSTRATES MADE OF OLD TILES, MOSAICS, STONE (3)	WATERPROOF SUBSTRATES WITH LITOPROOF	WATERPROOF SUBSTRATES WITH HIDROFLEX, ELASTOCEM, COVERFLEX	FIBRE CEMENT AND CONCRETE PANELS	WOODEN PANELS (CTBX - CTBH) AND METAL SURFACES	WATERPROOF AND NOT PLASTERBOARD SLABS (4)	ELEMENTS IN AUTOCLAVED AERATED CONCRETE (5)	SOUND ABSORBING AND INSULATING PANELS - LIGHTWEIGHT PANELS
	GREATER SIDE OF THE TILES (cm)												
LITOKOL K17/K18	C1	≤ 60	≤ 60	-	-	-	-	-	≤ 30	-	-	≤ 60	-
CEMENTKOL K21/K22	C1	≤ 60	≤ 60	-	-	-	-	-	≤ 30	-	-	≤ 60	-
LITOBLANC K2	C1T	≤ 60	≤ 60	-	-	-	-	-	≤ 30	-	-	≤ 60	-
LITOKOL X11/X12	C2TE	≤ 90	≤ 90	≤ 60	≤ 60	≤ 30	≤ 30	≤ 30	≤ 30	-	≤ 30	≤ 90	-
LITOFLEX K80	C2E	≤ 90	≤ 90	≤ 90	≤ 90	≤ 90	≤ 60	≤ 60	≤ 60	-	≤ 60	≤ 90	≤ 60
LITOFLEX K80 EXPORT	C2TE	≤ 90	≤ 90	≤ 90	≤ 90	≤ 90	≤ 60	≤ 60	≤ 60	-	≤ 60	≤ 90	≤ 60
LITOPUS K55	C2TE	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	-	≤ 30	≤ 30	≤ 30
SUPERFLEX K77	C2TE-S1	> 120	> 120	> 120	> 120	≤ 120	≤ 120	≤ 120	≤ 120	-	≤ 90	≤ 90	≤ 90
LITOFAST K86	C2FT	≤ 90	≤ 90	≤ 90	≤ 90	≤ 90	≤ 60	≤ 60	≤ 60	-	≤ 60	≤ 90	≤ 60
LITOSTONE K 99	C2FE	≤ 90	≤ 90	≤ 90	≤ 90	≤ 90	≤ 60	≤ 60	≤ 60	-	≤ 60	≤ 90	≤ 60
CEMENTKOL K21/K22 + LATEXKOL diluted 1:1 with water	C2-S1	> 120	> 120	> 120	> 120	≤ 120	≤ 120	≤ 120	≤ 120	-	≤ 90	≤ 90	≤ 90
CEMENTKOL K21/K22 + LATEXKOL	C2-S2	> 120	> 120	> 120	> 120	> 120	> 120	> 120	> 120	-	≤ 90	≤ 90	≤ 120
LITOACRIL FIX	D1E	≤ 60	≤ 60	≤ 30	≤ 30	-	-	-	-	-	≤ 30*	-	-
LITOACRIL LA315/LA201	D1TE/ D1T	≤ 60	≤ 60	≤ 30	≤ 30	-	-	-	-	-	≤ 30*	-	-
ADESIVO UNIVERSALE LK78	D1E	≤ 60	≤ 60	≤ 30	≤ 30	-	-	-	-	-	≤ 30*	-	-
LITOACRIL PLUS	D2TE	≤ 60	≤ 60	≤ 30	≤ 30	-	-	-	-	-	≤ 30*	-	-
LITOELASTIC	R2T	> 120	> 120	> 120	> 120	> 120	> 120	> 120	> 120	> 120	≤ 90	≤ 90	≤ 120

KEY:
1 - After treatment with Primer C or Primer X94 for cementitious adhesives (C).
2 - Maturing time: minimum 6 months
3 - After cleaning and degreasing with a solution of water and caustic soda
4 - After treatment with Primer C or Primer X94 for not waterproof plasterboard for cementitious adhesives
5 - After treatment with Primer X94
(*) to be used only in the case of not waterproof plasterboard plates without treatment with a primer



PRODUCTS	TYPE OF SUBSTRATE						
	CLASSIFICATION ACCORDING TO EN 12004 - EN 12002	CEMENTITIOUS SCREED OR LITOCEM BASED WITHOUT HEATING SYSTEM	CONCRETE CAST IN-SITU (1)	PRECAST CONCRETE	PRE-EXISTING SUBSTRATES MADE OF OLD TILES, MOSAICS, STONE OR MARBLE TILES (2)	WATERPROOF SUBSTRATES WITH ELASTOCEM OR COVERFLEX	METAL SURFACES
	GREATER SIDE OF THE TILES (cm)						
LITOKOL K17 / LITOKOL K18	C1	≤ 30	≤ 30	-	-	-	-
CEMENTKOL K21 / CEMENTKOL K22	C1	≤ 30	≤ 30	-	-	-	-
LITOBLANC K2	C1T	≤ 30	≤ 30	-	-	-	-
LITOKOL X11 / LITOKOL X12	C2TE	≤ 60	≤ 60	-	≤ 30	≤ 30	-
LITOFLEX K80	C2E	≤ 90	≤ 90	≤ 30	≤ 90	≤ 60	-
LITOFLEX K80 EXPORT	C2TE	≤ 90	≤ 90	≤ 30	≤ 90	≤ 60	-
SUPERFLEX K77	C2TE-S1	≤ 120	≤ 120	≤ 60	≤ 120	≤ 120	-
LITOFAST K86	C2FT	≤ 90	≤ 90	≤ 30	≤ 90	≤ 60	-
LITOSTONE K99	C2FE	≤ 90	≤ 90	≤ 30	≤ 90	≤ 60	-
LITOFLOTT K88	C2FE	≤ 90	≤ 90	≤ 30	≤ 90	≤ 60	-
CEMENTKOL K21/K22 + LATEXKOL diluted 1:1 with water	C2-S1	≤ 120	≤ 120	≤ 60	≤ 120	≤ 120	-
CEMENTKOL K21/K22 + LATEXKOL	C2-S2	> 120	> 120	≤ 90	> 120	> 120	-
LITOELASTIC	R2T	> 120	> 120	≤ 90	> 120	> 120	≤ 90

KEY:
1 - Maturing time: minimum 6 months
2 - After cleaning and degreasing with a solution of water and caustic soda

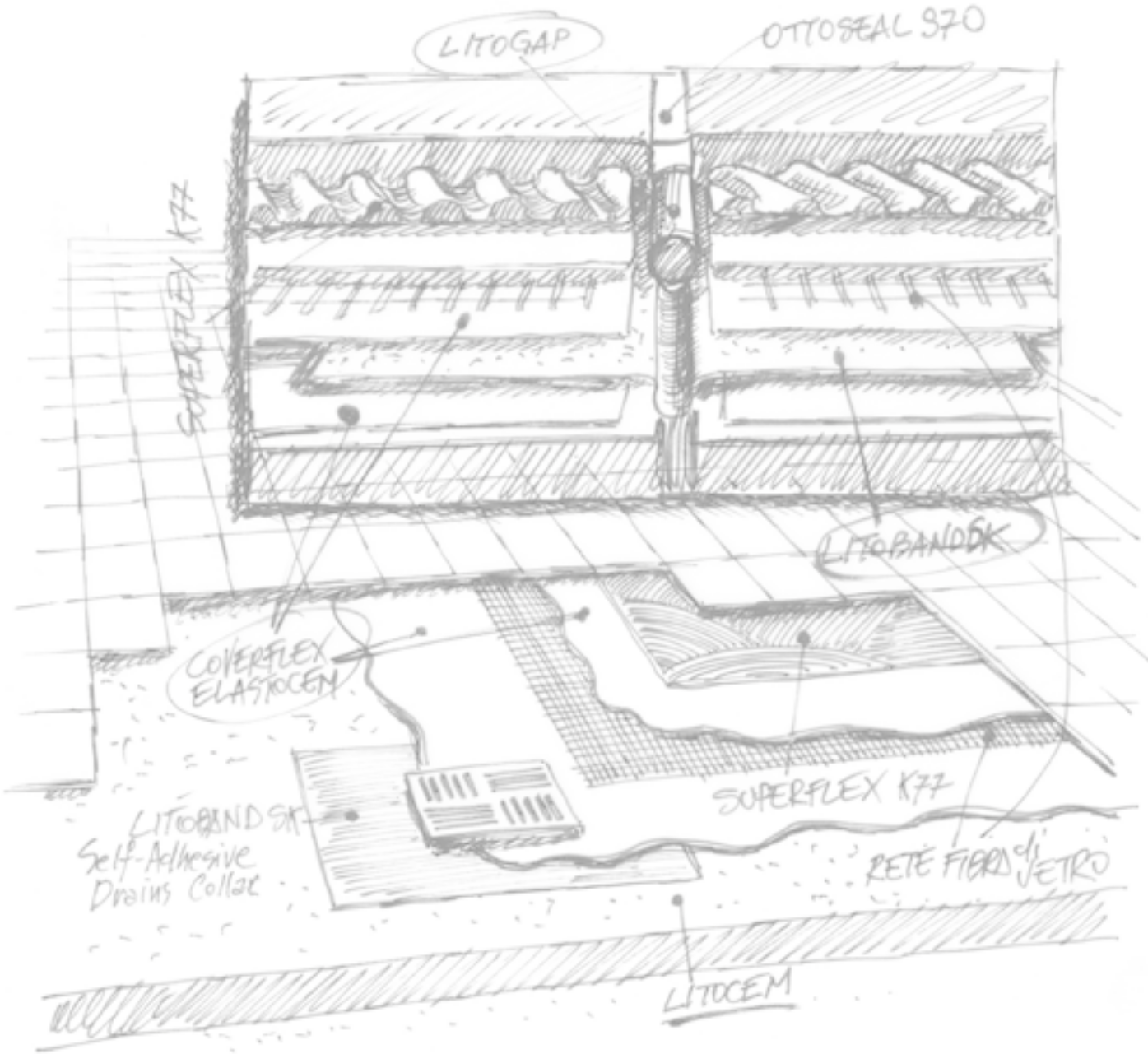


PRODUCTS	TYPE OF SUBSTRATE							
	CLASSIFICATION ACCORDING TO EN 12004 - EN 12002	LIME/CEMENT PLASTER	CONCRETE CAST IN-SITU (1)	PRECAST CONCRETE	PRE-EXISTING SUBSTRATES MADE OF OLD TILES, MOSAICS, STONE (2)	WATERPROOF SUBSTRATES WITH ELASTOCEM OR COVERFLEX	FIBRE CEMENT PANELS	METAL SURFACES
GREATER SIDE OF THE TILES (cm)								
LITOKOL X11 / LITOKOL X12	C2TE	≤ 30	≤ 30	≤ 30	-	-	-	-
LITOFLEX K80	C2E	≤ 60	≤ 60	≤ 60	-	≤ 30	≤ 30	-
LITOFLEX K80 EXPORT	C2TE	≤ 60	≤ 60	≤ 60	-	≤ 30	≤ 30	-
LITOPLUS K55	C2TE	≤ 30	≤ 30	≤ 30	-	≤ 30	≤ 30	-
SUPERFLEX K77	C2TE-S1	≤ 90	≤ 90	≤ 90	≤ 30	≤ 90	≤ 60	-
LITOFAST K86	C2FT	≤ 60	≤ 60	≤ 60	-	≤ 30	≤ 30	-
LITOSTONE K99	C2FE	≤ 60	≤ 60	≤ 60	-	≤ 30	≤ 30	-
CEMENTKOL K21/K22 + LATEXKOL diluted 1:1 with water	C2-S1	≤ 90	≤ 90	≤ 90	≤ 30	≤ 90	≤ 60	-
CEMENTKOL K21/K22 + LATEXKOL	C2-S2	> 120	> 120	> 120	≤ 60	> 120	≤ 90	-
LITOELASTIC	R2T	> 120	> 120	> 120	≤ 120	> 120	≤ 90	≤ 120

KEY:
1 - Maturing time: minimum 6 months
2 - After cleaning and degreasing with a solution of water and caustic soda

NOTE:
as the tiled surfaces are notably tall (>3m) and subject to high dilatometric stress due to thermohygrometric changes, and considering the safety risk connected to a tile detaching, it is advisable to preventively consult the Litokol technical office in order to define exactly which products are suitable and what the safest installation technique is.

Laying systems



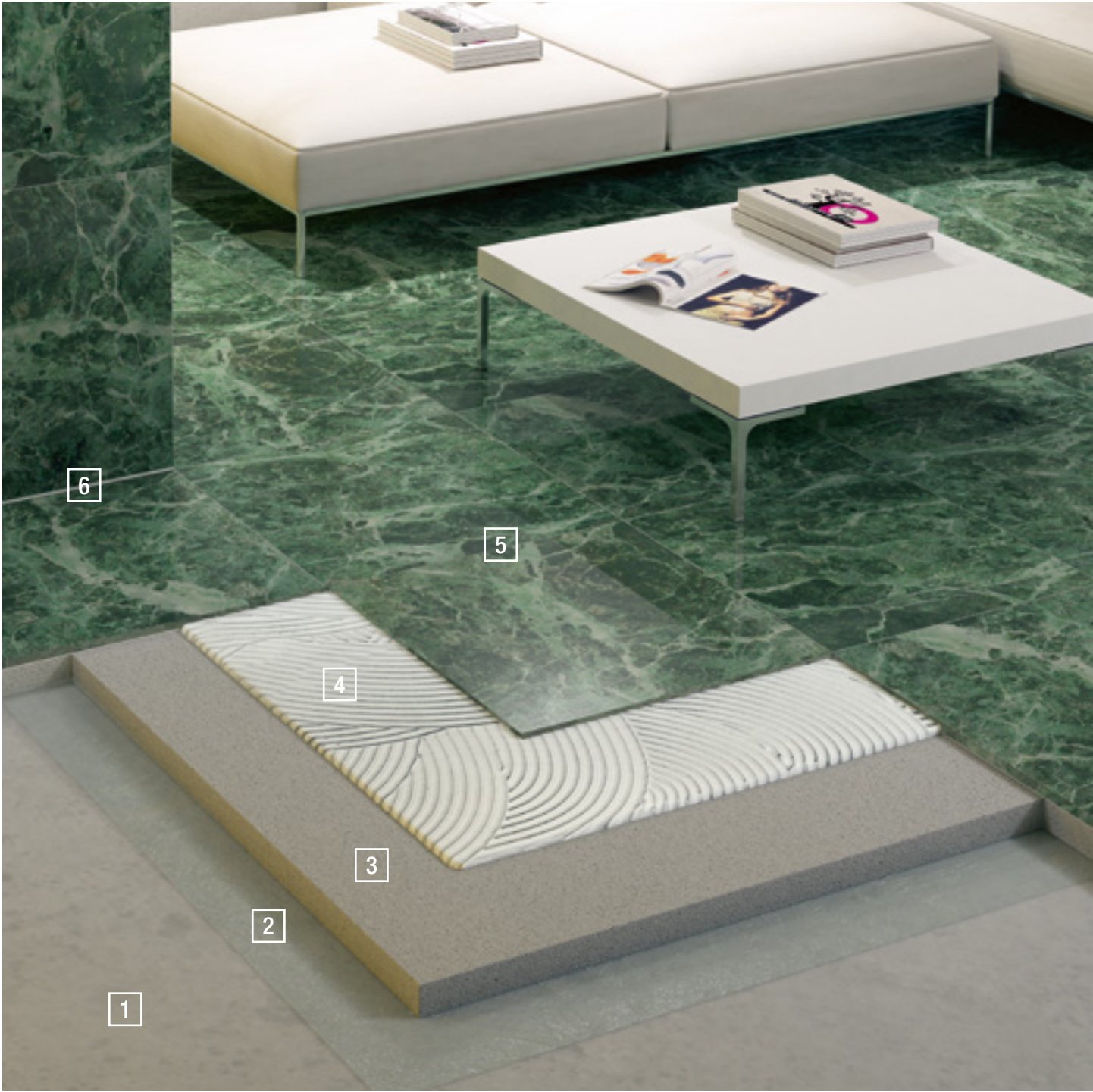


Rapid system for laying white marble or tiles
vulnerable to staining



- 1 - CONCRETE SUBSTRATE
- 2 - SHEET OF POLYETHYLENE
- 3 - LITOCESM SCREED
- 4 - LITOSTONE K99
- 5 - LITOCHROM 1-6
- 6 - OTTOPRIMER 1216 + OTTOSEAL S70

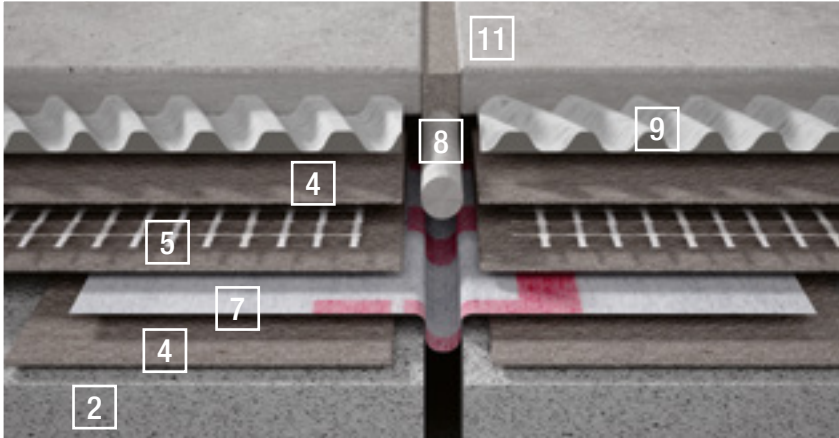
Laying system for green or unstable to humidity marble
and resin-base recomposed marble



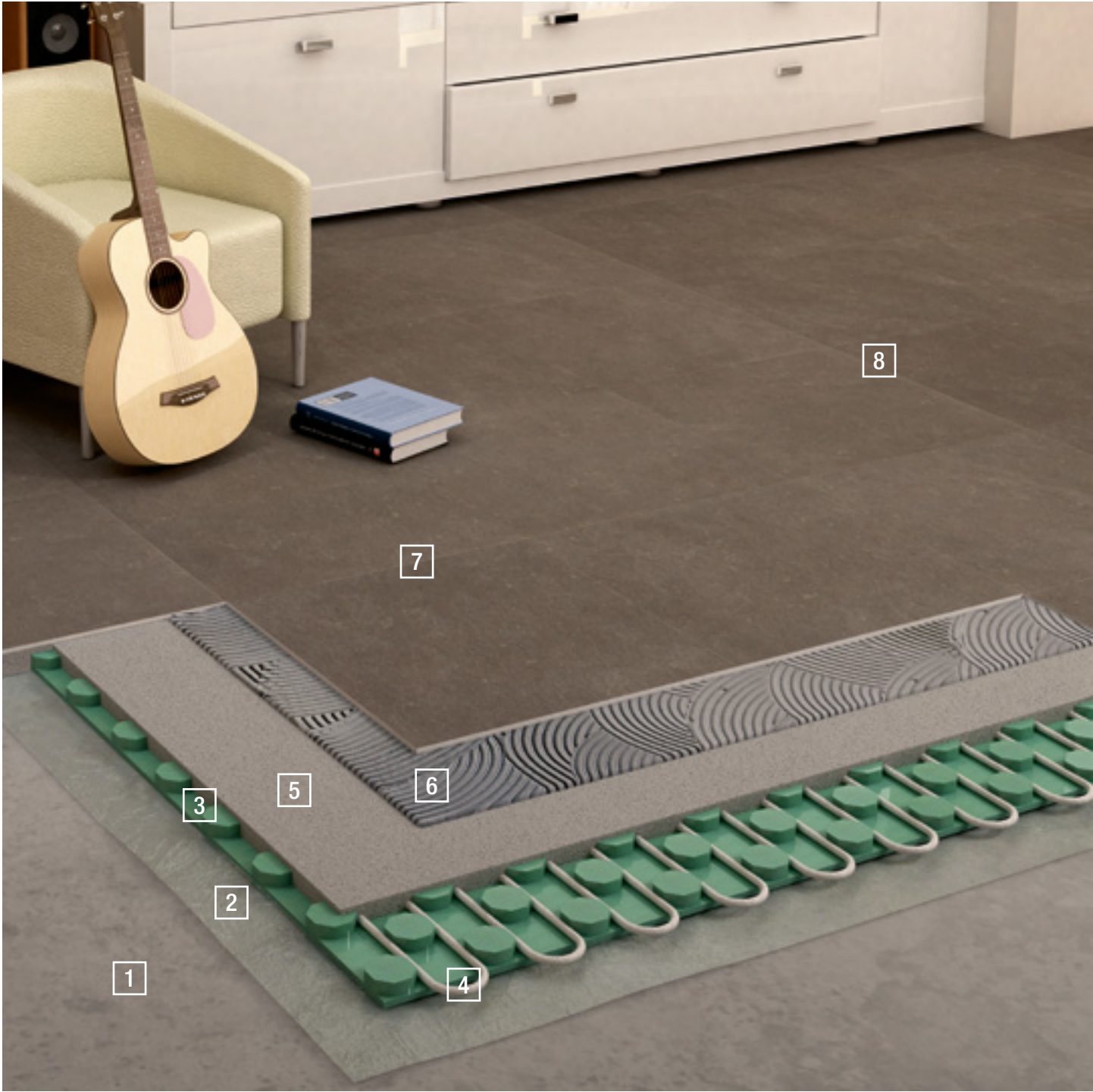
- 1 - CONCRETE SUBSTRATE
- 2 - SHEET OF POLYETHYLENE
- 3 - LITOCESM SCREED
- 4 - LITOELASTIC
- 5 - LITOCHROM 1-6
- 6 - OTTOPRIMER 1216 + OTTOSEAL S70



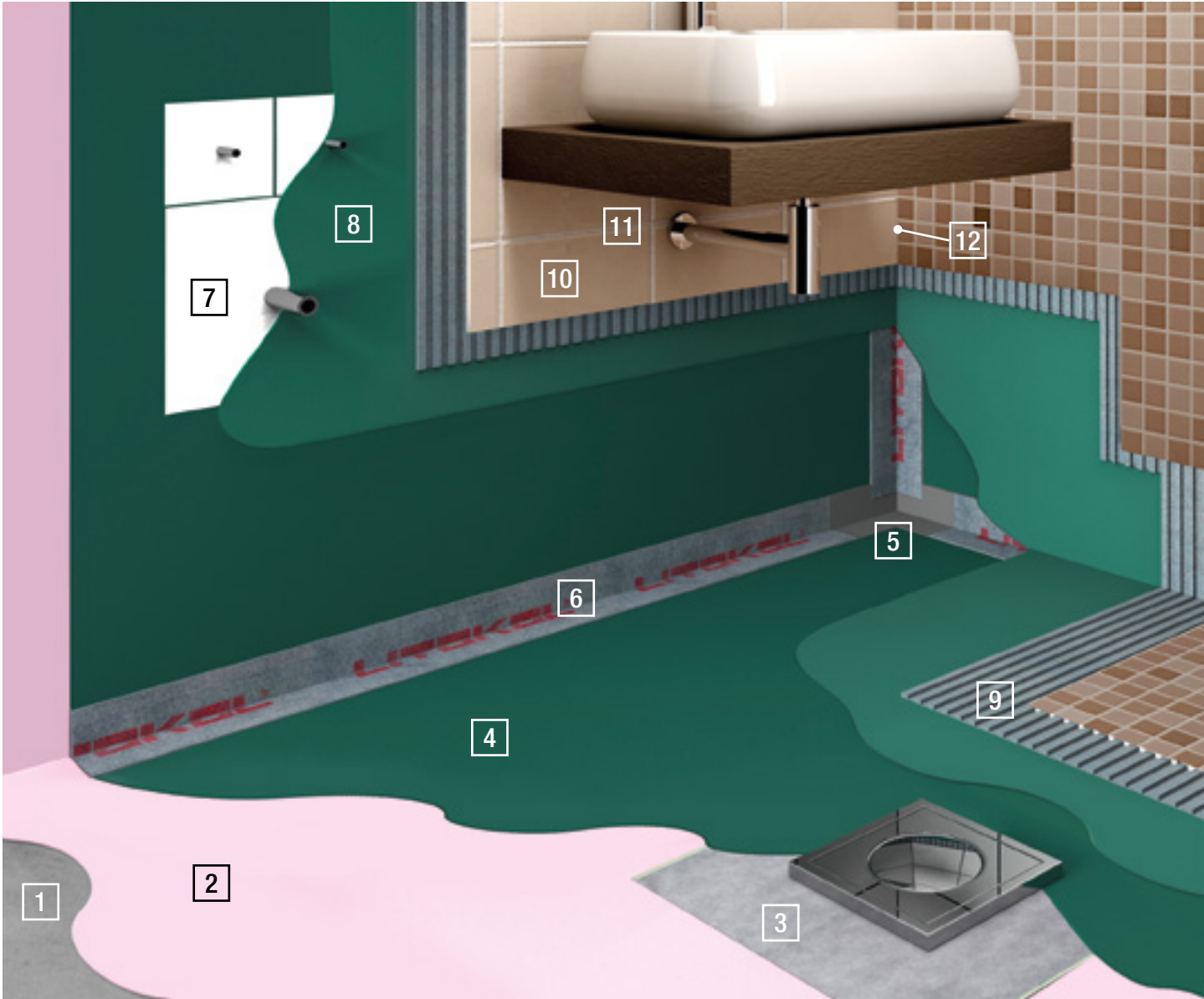
6 - WATERPROOFED FRACTION JOINT



- 1 - CONCRETE SUBSTRATE
- 2 - LITOCHEM SCREED (slope)
- 3 - LITOBAND SK SELF-ADHESIVE DRAINS COLLAR
- 4 - COVERFLEX/ELASTOCHEM
- 5 - FIBREGLASS MESH
- 6 - WATERPROOFED FRACTION JOINT
- 7 - LITOBAND SK
- 8 - LITOGAP
- 9 - SUPERFLEX K77
- 10 - STARLIKE® or LITOCHEM 3-15 (grouting joints)
- 11 - OTTOPRIMER 1216 + OTTOSEAL S70 (fraction joint)



- 1 - CONCRETE SUBSTRATE
- 2 - SHEET OF POLYETHYLENE
- 3 - INSULATING PANEL
- 4 - RADIANT SYSTEM
- 5 - LITOCHEM SCREED
- 6 - LITOFLEX K80
- 7 - STARLIKE® or LITOCHEM 3-15 or LITOCHEM 1-6 STARLIKE® MONOMIX
- 8 - OTTOSEAL S100/105 or S70 (fraction joint)



- 1 - SUBSTRATE
- 2 - PRIMER SK
- 3 - LITOBAND SK Self-Adhesive Drains Collar
- 4 - HIDROFLEX (first coat)
- 5 - LITOBAND SK Internal Corner (IC)
- 6 - LITOBAND SK Tape
- 7 - LITOBAND SK Pipes Collar
- 8 - HIDROFLEX (second coat)
- 9 - LITOFLEX K80 Export
- 10 - CERAMIC TILES
- 11 - STARLIKE® or LITOCHROM 1-6 (grouting joints)
- 12 - OTTOSEAL S100/105 or S70



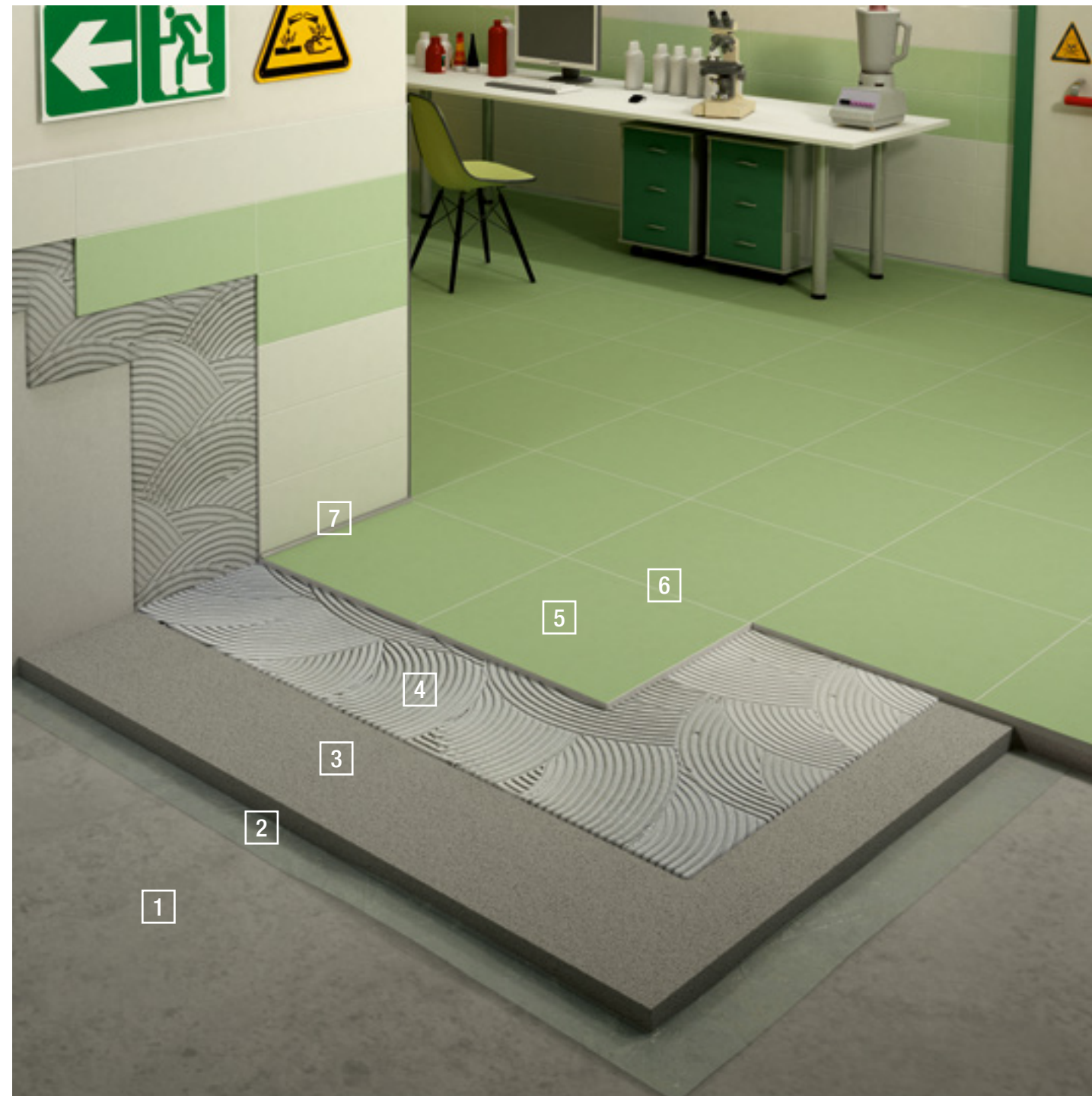
- 1 - SUBSTRATE
- 2 - HIDROFLEX
- 3 - LITOPROOF
- 4 - LITOBAND SK Self-Adhesive DrainsCollar
- 5 - HIDROFLEX (second coat for the bonding of Litoband SK and covering of the drain)
- 6 - LITOBAND SK internal corner (IC)
- 7 - LITOBAND Tape
- 8 - LITOBAND SK Pipes Collar
- 9 - HIDROFLEX
- 10 - LITOFLEX K80 Export
- 11 - CERAMIC TILES
- 12 - STARLIKE® or LITOCHROM 1-6 (grouting joints)
- 13 - OTTOSEAL S100/105 or S70



- 1 - REINFORCED CONCRETE STRUCTURE
- 2 - LITOPASTER T30 (only on the walls)
- 3- IDROKOL X20 BASED ADHESIVE SLURRY
(applied to the panel and consisting of water/
Idrokol X20/Litocem in equal quantities)
- 4 - LITOCERM SCREED
- 5 - COVERFLEX/ELASTOCERM
- 6 - FIBREGLASS MESH
- 7 - LITOBAND SK internal corner (IC)
- 8 - LITOBAND SK Tape
- 9 - LITOPRIMER K55+LATEXKOL
diluted 1:1 with water
- 10 - CERAMIC TILES
- 11 - GLASS MOSAIC
- 12 - STARLIKE® or LITOCROM 1-6
(grouting joints)
- 13 - OTTOPRIMER 1218 + OTTOSEAL S70



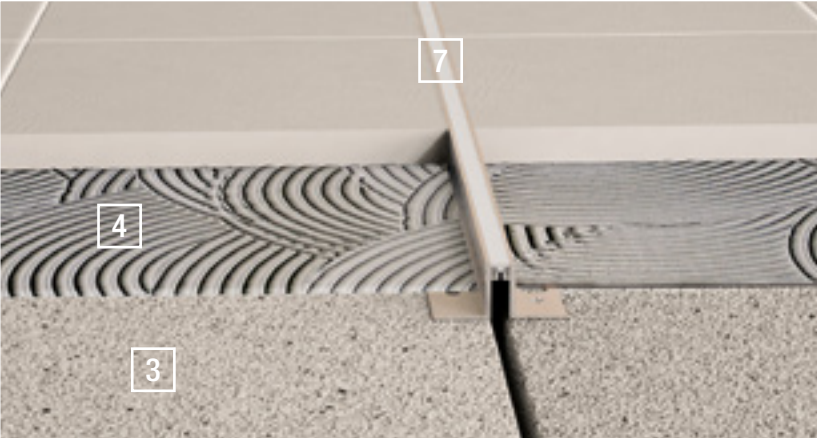
- 1 - OLD CERAMIC TILES
- 2 - LITOFIX
- 3 - LITOFLEX K80/SUPERFLEX K77
- 4 - PORCELAIN STONEWARE TILES
- 5 - STARLIKE®, LITOCHROM 1-6
or STARLIKE® MONOMIX



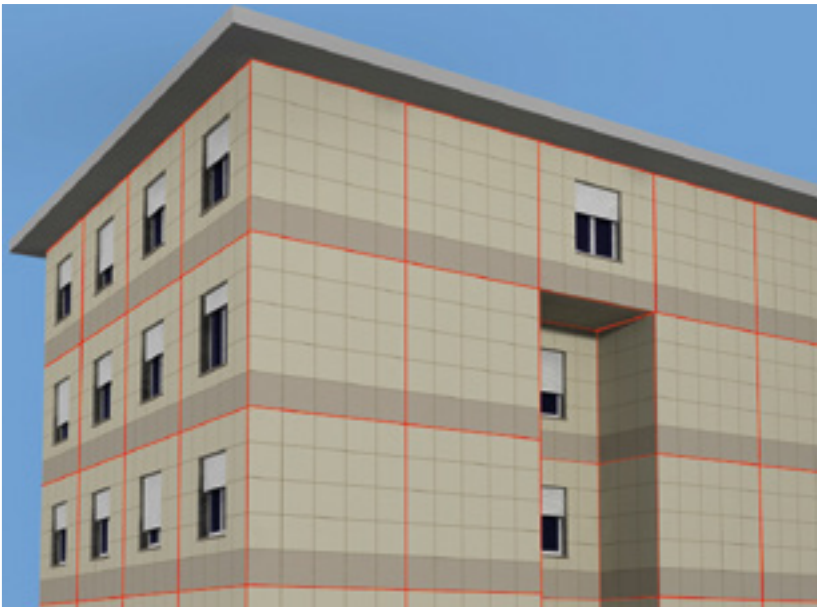
- 1 - CONCRETE SUBSTRATE
- 2 - SHEET OF POLYETHYLENE
- 3 - LITOCESCREEN
- 4 - EPOXYSTUK X90 or STARLIKE® (used as adhesive)
- 5 - TILES
- 6 - EPOXYSTUK X90/STARLIKE® (grouting)
- 7 - OTTOPRIMER 1216 + OTTOSEAL S34 (perimeter joint)



7 - MOVEMENT JOINT



- 1 - REINFORCED CONCRETE SUBSTRATE
- 2 - SHEET OF POLYETHYLENE
- 3 - REINFORCED LITOCHEM SCREED
- 4 - LITOFLOTT K88
- 5 - THICKENED PORCELAIN TILES OR KLINKER TILES
- 6 - STARLIKE® OR EPOXYTUK X90 (joint grouting)
- 7 - MOVEMENT JOINT



- 1 - CEMENTITIOUS PLASTER OR CONCRETE
- 2 - SUPERFLEX K77 or CEMENTKOL K21 + LATEXKOL
- 3 - STARLIKE®
 - EPOXYSTUK X90
 - LITOCHEM 1-6/3-15
 - STARLIKE® MONOMIX
- 4 - OTTOPRIMER 1216 + OTTOSEAL S100/105 or S70

The red lines indicate the correct positioning of elastic fraction joints on facades



System for laying reinforced thin
slabs floor on existing old tiles



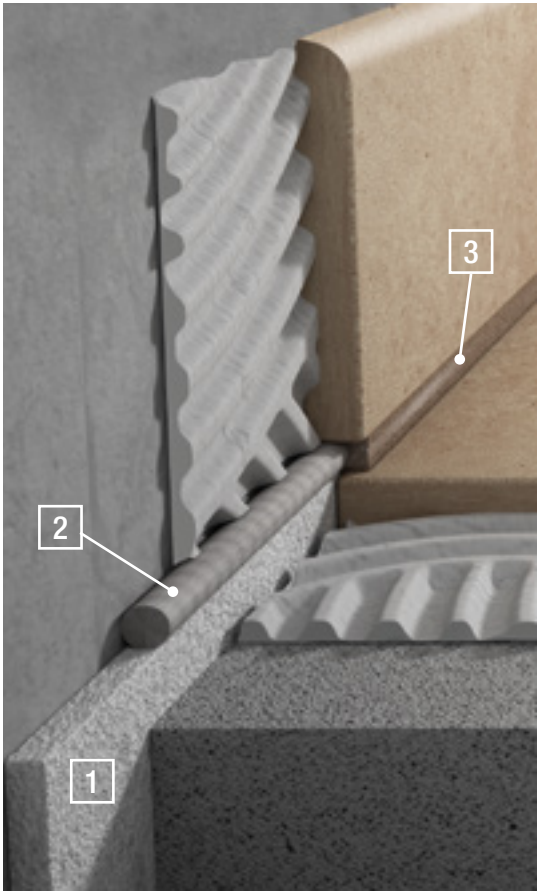
- 1 - OLD TILES
- 2 - SUPERFLEX K77
(up to 100x50 cm)
CEMENTKOL K21+LATEXKOL
(for all sizes up to 300x100 cm, or in the case of
underfloor heating systems)
- 3 - STARLIKE®, LITOCHROM 1-6
or STARLIKE® MONOMIX
- 4 - OTTOSEAL S100/105 or S70 (perimeter joint)

System for laying ceramics
on metallic surfaces

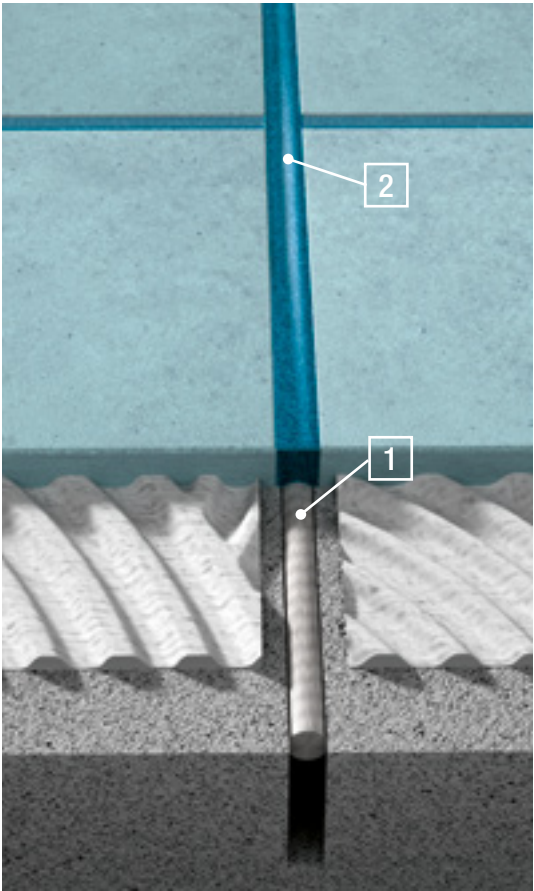


- 1 - SMOOTH METAL SHEET
- 2 - LITOELASTIC
- 3 - CERAMIC TILES
- 4 - STARLIKE®
- 5 - OTTOSEAL S100/105 or S70 (perimeter joint)

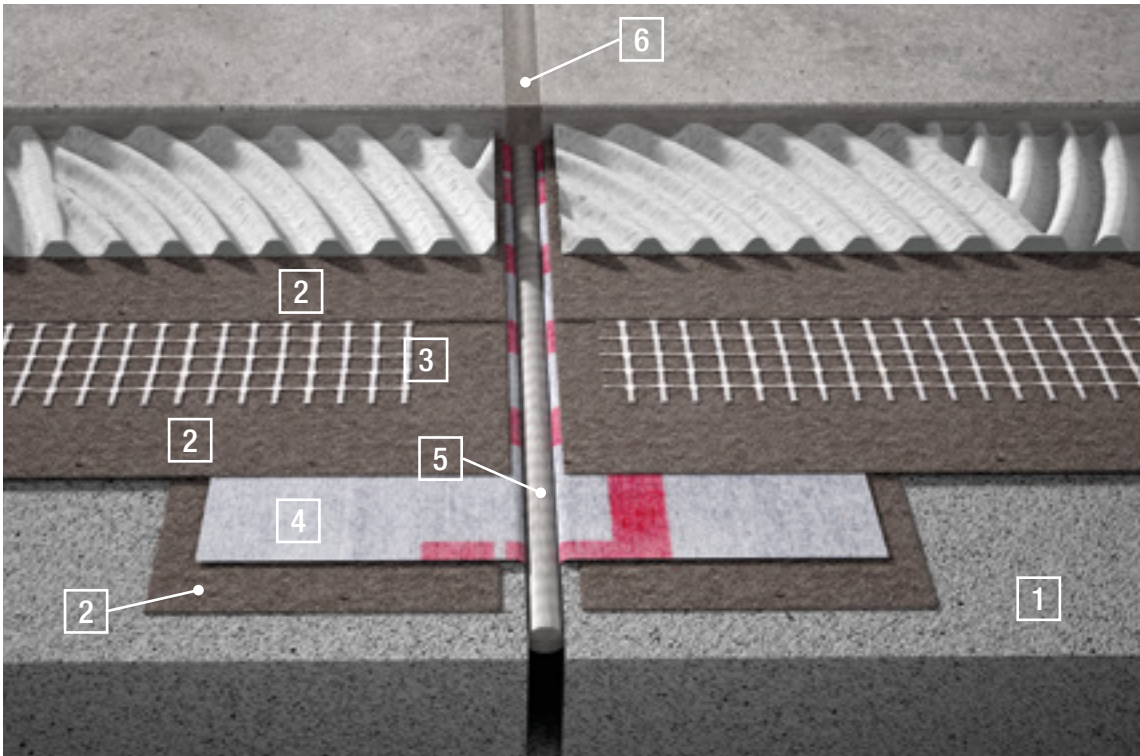
- **Perimeter joints**
- 1 - LITOSIDE
 - 2 - LITOGAP
 - 3 - OTTOSEAL S100/105



- **Fraction joints**
- 1 - LITOGAP
 - 2 - OTTOSEAL S100/105



■ **System for the waterproofing fraction joints on balconies and terraces**

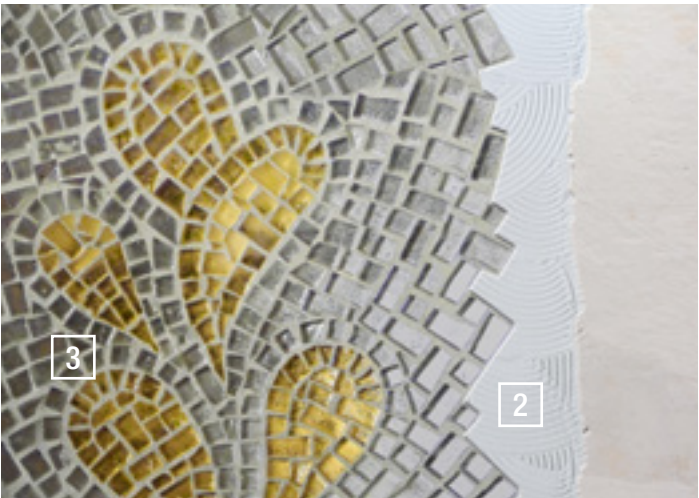


- 1 - LITOCEM SCREED
- 2 - COVERFLEX/ELASTOCEM
- 3 - FIBREGLASS MESH
- 4 - LITOBAND SK Tape
- 5 - LITOGAP
- 6 - OTTOPRIMER 1216 + OTTOSEAL S70

Glass mosaic on a transparent support



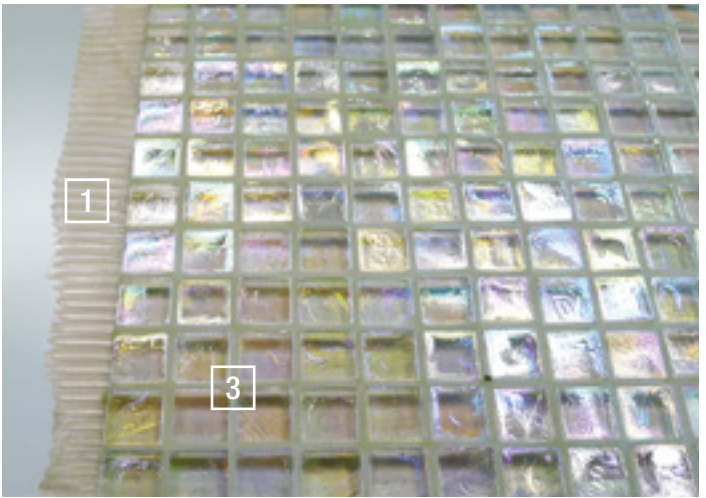
Artistic mosaic



La coloration translucide de Starlike® Crystal permet au joint d'absorber la couleur des tesselles en verre transparent et donc de refléter la nuance de la même.

In the case of transparent glass mosaics mounted on paper, it is possible to create backlit internal walls consisting of transparent substrates in glass or Plexiglas. In this case, fixing will be done with a suitable transparent cartridge adhesive.

Glass mosaic on a transparent support



- 1 - OTTOCOLL M501 transparent (only for glueing glass mosaic onto backlit transparent or substrates)
- 2 - LITOElastic
- 3 - STARLIKE® CRYSTAL (sealing of joints)



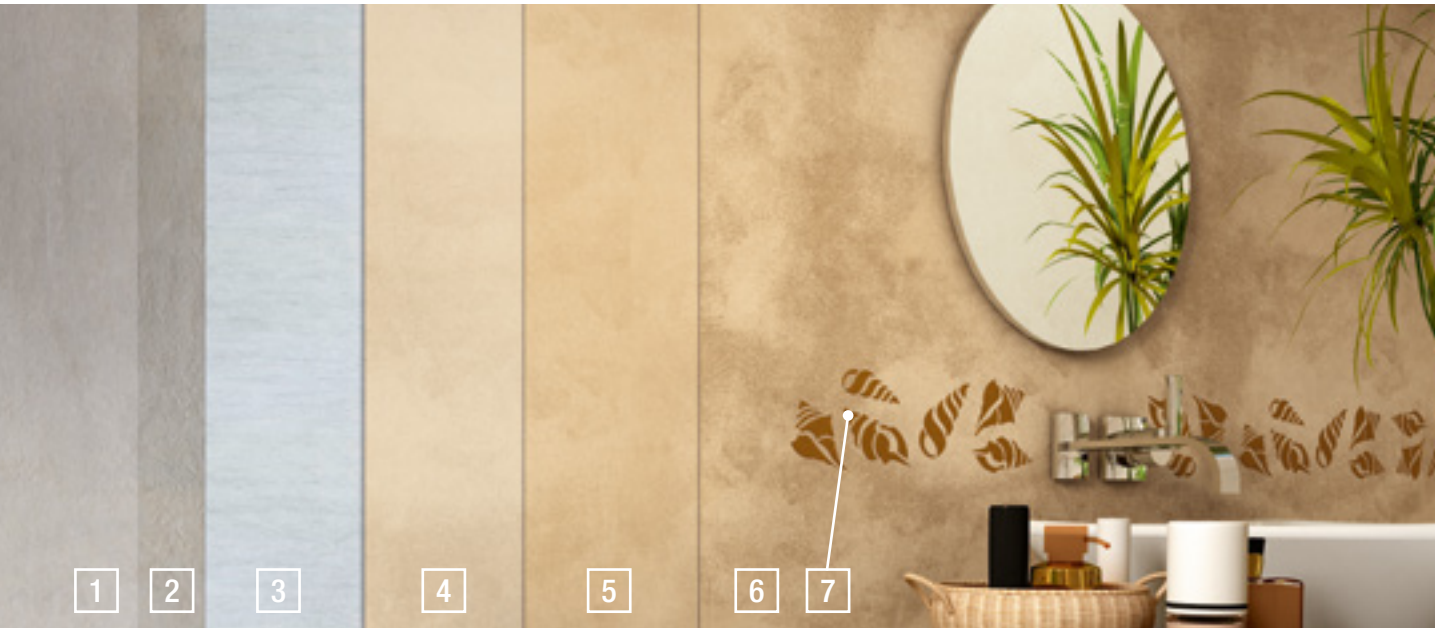
Application of Starlike® as a wall finish for overlaying on existing ceramics



LITOKOL®

Substrate preparation products

Application of Starlike® as a wall finish



Application of Starlike® as a wall finish for by overlaying on existing ceramics

- 1 - EXISTING CERAMIC
- 2 - DECOR PRIMER FONDO (first coat)
- 3 - FIBREGLASS MESH (only for overlaying existing ceramics)
- 4 - DECOR PRIMER FONDO (second coat)
- 5 - STARLIKE® + STARLIKE® DECOR (first coat with “zero” smoothing)
- 6 - STARLIKE® + STARLIKE® DECOR (second coat “zero” smoothing - cloudy effect)
- 7 - STARLIKE® + STARLIKE® DECOR (third coat “zero” smoothing smooth finish - covering effect)
- 8 - Decoration with Starlike® and STENDECOR

Application of Starlike® as a wall finish

- 1 - RAW CEMENT PLASTERS
- 2 - PRIMER C
- 3 - DECOR PRIMER FONDO
- 4 - STARLIKE® + STARLIKE® DECOR (first coat with “zero” smoothing)
- 5 - STARLIKE® + STARLIKE® DECOR (second coat “zero” smoothing - cloudy effect)
- 6 - STARLIKE® + STARLIKE® DECOR (third coat “zero” smoothing - smooth finish, wet on wet application)
- 7 - Decoration with Starlike® and STENDECOR

Screeds for floor tiling

Screeds for ceramic tiling can be classified into:

- Unbonded screeds;
- Bonded screeds;
- Floating screeds;
- Screeds with heating/cooling.

The requirements for the screed are based fundamentally on the target environment and relate to the strength class according to the standard UNI EN 13813.

Unbonded screeds with ≥ 40 mm thickness

Isolate the substrate by inserting sheets of polyethylene or similar, overlapping them by at least 20 cm. Along the walls and at each elevation of the floor (columns, stairs, etc.), place strips of compressible material to act as a perimeter joint and then make the sheets of polyethylene go up the entire thickness of the screed. The sheets have the function of creating a sliding layer and a barrier against any rising moisture.



1 - screed
2 - sheet of polyethylene
3 - perimeter joint
4 - weight-bearing structure (floor)

Bonded screeds with < 40 mm thickness

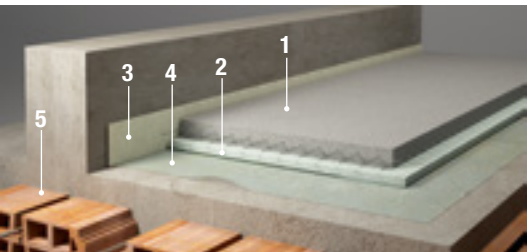
In this case, the old substrate, constituted of a cementitious, ceramic or natural stone slab, must be clean, free from dust, oils, wax, loose particles or anything else that could prevent proper adhesion. It must also possess adequate resistance to compression. Place the strips of compressible material acting as perimeter joint in correspondence to the walls and any floor elevations. Just before applying the mixture on the substrate, it is necessary, using a brush or trowel, to apply a liquid slurry consisting of Litocem-Idrokol X20 and water mixed in equal parts, to obtain high adhesion of the screed at reduced thickness. Spread the Litocem based mixture on the slurry that has not yet dried (wet on wet).



1 - screed
2 - bonding slurry
3 - perimeter joint
4 - weight-bearing structure (floor)

Floating screeds

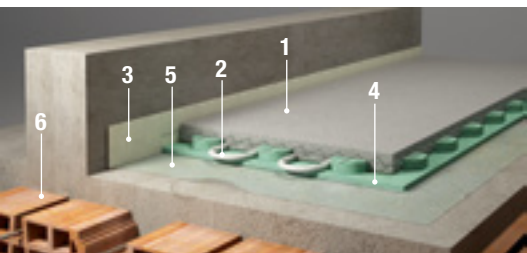
Floating screeds are unbonded screeds installed on a layer acting as acoustic and thermal insulation. Because of the compressibility features of insulation material, floating screeds must be suitably sized and, if necessary, reinforced with electrowelded mesh or other systems, to prevent puncturing and to facilitate the distribution of loads. Floating screeds require the installation of a perimeter joint.



1 - screed with electrowelded mesh
2 - layer of thermo-acoustic insulation
3 - perimeter joint
4 - sheet of polyethylene
5 - weight-bearing structure (floor)

Screeds with heating/cooling systems

Screeds with heating/cooling systems are floating screeds which have heating/cooling systems embedded in them. As well as the requirements for floating screeds, you must provide for a screed thickness that is ≥ 30 mm above the system serpentine. Before laying the tiles, the system must run a start-up cycle in accordance with UNI EN 1264-4.



1 - screed with electrowelded mesh
2 - heating coils embedded in the screed
3 - perimeter joint
4 - layer of thermal insulation
5 - sheet of polyethylene
6 - weight-bearing structure (floor)

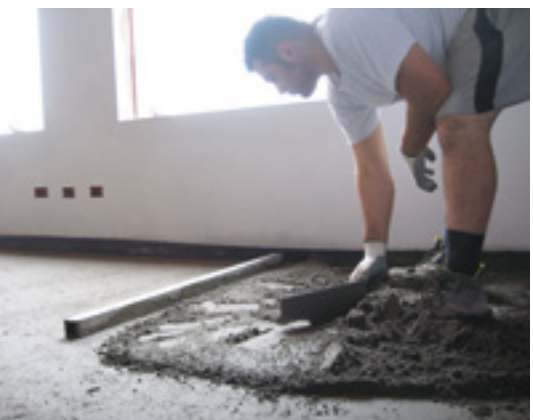
Preparation of the mixture for the realisation of screeds in Litocem

For the realisation of floating or bonded screeds, both internal and external, Litokol proposes the hydraulic binder LITOCEM. The mixture can be made with a cement mixer, a horizontal auger mixer or with an automatic pressure pump like Turbosol. We do not recommend manual mixing using a shovel because it does not allow a good homogenisation of the mixture. Mix thoroughly for at least 5 -10 minutes. The water dosage must be carried out carefully, in order to obtain a mixture with a “wet, almost plastic, soil “ consistency which, in the compacting and trowelling phase, must not give rise to surface water.



Application

The mixture is cast like regular cementitious screed on the substrate, by first preparing levelling strips, compacting and tamping it to obtain a good closed surface finish, smooth and without any surface water.



In the case of sudden variations in thickness, due to the passage of pipes, ducts, etc., it is necessary to insert a hexagonal perforated metal mesh in the screed in order to reinforce it and to limit the formation of cracks. In any case, the thickness of the screed above the tubes must not be less than 2 cm. If the installation work is interrupted not at a joint, it is necessary to cut the screed perpendicular to the floor of installation and insert steel dowels of a diameter of 3-6 mm, 20-30 cm long and spaced 20-30 cm between them, in order to increase the adhesion of the concrete casting, thus avoiding problems of cracks and unevenness. On compressible substrates (e.g. thermo-acoustic insulation panels), the screed must be reinforced with electrowelded steel mesh.



Cementitious self-levellers mortars

Litokol offers a complete range of self-levellers premixed grey powder mortars made of quick-setting and drying special hydraulic binders, siliceous and calcareous aggregates of selected particle size and organic additives.

The Litokol self-levellers mortars show high resistance to compression and bending even after 4 hours of application and its special drying speed allows for the subsequent laying of ceramic tiles, natural stone, textile and resilient materials in a very short time.

Cementitious levelling layers mortars

Cementitious levelling layers in premixed Litokol powder made of quick-setting and drying hydraulic binders, siliceous aggregates of selected particle size, organic additives are characterised by the following requisites:

- Blended with 20% water gives a thixotropic mixture that can be easily applied on vertical substrates without running. By increasing the water in the mixture, you obtain a plastic mortar of a consistency suitable for floor applications.
- Development of high mechanical resistance to bending and compression just 4 hours after application.

Preparation of substrates

The substrates must be clean, dry, solid, compact, seasoned enough, without loose parts and without rising moisture.

Substrates that are too porous and absorbent or superficially powdery, must be treated with PRIMER C. **Smooth and compact substrates** such as smoothed concrete, old ceramic or marble tiles, must be treated with the Litofix adhesion promoter primer.

Sulphate/anhidrite screeds must be sanded down before and treated with Primer C or Primer X94. In this case check with a carbide hygrometer that the **maximum moisture content does not exceed 0.5%**.

Preliminary checks and application

Site conditions

Verify that the conditions of temperature, humidity, lighting, etc. at the time of product application are adequate.

Use and storage of the material

Verify that the product is suitable for the intended use by consulting the relevant technical data sheet and is properly stored.

Expansion joints

Verify that the perimeter flexible expansion, fraction and structural joints are properly designed and prepared. Generally, fraction joints must be provided for allotments of 50 m² or 25/30 m² in case of heating floors. For environments with surfaces of less than 50 m², provide for expansion joints at the doorsteps.

Application

Regarding the **cementitious self-levellers mortars**, the mixture is poured directly onto the substrate and spread manually or by machine with the aid of a blade or a steel smooth trowel



Cementitious adhesives and compatible membranes

In the case of **cementitious levelling layers**, the mix is applied directly on the substrate using a metal trowel, creating the desired thickness.



For a smoother surface finish, use a sponge trowel when the product starts binding and has sufficiently hardened. A smoothing coat can be applied about 3 hours after the first coat.



SUITABLE ADHESIVES FOR LAYING

24 hours after application, it is possible to lay ceramic tiles, natural stone, parquet, textile and resilient materials.

For laying ceramic tiles and natural stones, cement adhesives can be used with normal setting of class C2, quick-hardening of class C2F or reactive compounds of class R2 depending on the size of the tiles, intended use or the type of natural stone.

For laying parquet, we recommend the use of epoxy-polyurethane two-component adhesives of Litopar P2 type.



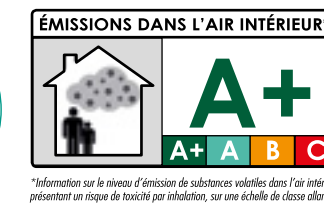
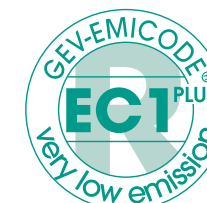
COMPATIBLE WATERPROOFING LINING

Waterproofing can be done 24 hours after application and before the laying of ceramic material using conventional cement two-component waterproofing lining of Elastocem or Coverflex (CM) type or in aqueous dispersion of Hidroflex (DM) type.



Certifications

The self-levellers mortars and the Litokol cementitious levelling layers are products with very low emissions of volatile organic compounds EC1-Rplus GEV-EMICO-DE - Class A+ according to French Regulations.



The self-levellers mortars and the Litokol cementitious levelling layers are CT classified according to EN 13813 where CT indicates that the product is cement based, while classes C and F denote the mechanical resistance to compression and bending after 28 days expressed in N/mm².


The compliance of the product with the EN 13813 harmonised standard is reported in the Declaration of Performance according to the European Regulation for construction products (CPR - Construction Products Regulation N: 305/2011/EU) and tested according to the 4 system of certification.

The declarations of performance (DoP) are available on www.litokol.it.


User pictograms key




Intended use



Public/commercial environment



Fast hardening and drying



Maximum thickness applicable




Residential environment



Industrial environment




Fibre-reinforced mortar



Self-levellers / levelling layers on heating screeds

Reading the catalogue

Product photographic images



Product name

Litoplan Rapid


Thixotropic cementitious levelling layer with ultra- rapid drying and hardening, with very low emissions of volatile organic substances (VOC), for vertical and horizontal applications from 1 to 25 mm thicknesses, internal use.

Product description


Technical features
Colour: Grey
Mixture life: about 30 minutes at a temperature of +23°C
Thickness applicable: from 1 to 25 mm per coat
Admitted application temperatures: from +5°C to +35°C
Consumption: 1.6 kg/m² per mm of thickness
Walkable after: about 2 hours at a temperature of +23°C
Waiting time for bonding: Ceramics and natural stone 4-6 hours
Parquet, textiles and resilient material 24 hours
Storage time: 12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks

Technical features (for correct use and further information consult the technical sheets on www.litokol.it)

Regulatory pictograms and product certifications











Pictograms of product use



Litocem

Normal setting and fast drying special hydraulic binder for screeds indoor and outdoor.
Also suitable for screeds with incorporated heating coils.



10/40 mm

Bonded screeds

40/80 mm

Unbonded screeds

Technical features

Colour: Grey
Mixture life: Approx. 1 hour
Admitted application temperatures: From +5°C to +35°C
Walkable after: 12 hours
Ready for use: 7 days
Waiting time before cementitious levelling: after 5-7 days
Waiting time before floor covering:
Ceramic tiles 24 hours
Natural stone 3 days
Parquet, PVC, linoleum and carpet 2 weeks
Consumption: 2-2.5 kg/m² for each cm of thickness
Storage time: 12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Litoliv S40 Eco

Quick hardening and drying cementitious self-leveller, fibre-reinforced, for the levelling of sub floors of 3 to 40 mm thickness, for indoors and outdoors.



3/40 mm

Bonded screeds

40/80 mm

Unbonded screeds

Technical features

Colour: Pinkish grey
Mixture life: approximately 45 minutes
Applicable thickness: from 1 to 40 mm
Admitted application temperatures: from +5°C to +35°C
Walkable after: 4-5 hours
Waiting time for bonding: 12/24 hours in accordance with the thickness and the temperature
Consumption: 1.6 kg/m² per mm of thickness.
Storage time: 12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Litoliv Extra 15

Ultra-rapid drying and hardening cementitious self-leveller with very low emissions of volatile organic substances (VOC) for levelling internal sub floors of 1 to 15 mm.



1/15 mm

Bonded screeds

40/80 mm

Unbonded screeds

Technical features

Colour: Grey
Mixture life: about 30 minutes at a temperature of +23°C
Applicable thickness: from 1 to 15 mm per coat
Admitted application temperatures: from +5°C to +35°C
Consumption: 1.7 kg/m² per mm of thickness
Walkable after: about 3 hours at a temperature of +23°C
Waiting time for bonding: Ceramics, natural stone, resilient and textiles 12 hours
Parquet 24 hours
Storage time: 12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Litoliv Express

Quick-hardening and drying fibre-reinforced self-leveller cement mortar, with very low emissions of volatile organic substances (VOC), for the levelling of sub floors with an internal thickness of 3 to 40 mm.



3/40 mm

Bonded screeds

40/80 mm

Unbonded screeds

Technical features

Colour: Grey
Mixture life: about 30 minutes at a temperature of +23°C
Thickness applicable: from 3 to 40 mm per coat
Admitted application temperatures: from +5°C to +35°C
Consumption: 1.6 kg/m² per mm of thickness
Walkable after: about 3 hours at a temperature of +23°C
Waiting time for bonding: 24 hours
Storage time: 12 months inside the original packaging, in a dry place
Packaging: 20 kg sacks





Litoplan Rapid

Thixotropic cementitious levelling layer with ultra- rapid drying and hardening, with very low emissions of volatile organic substances (VOC), for vertical and horizontal applications from 1 to 25 mm thicknesses, indoor use.



Technical features

- Colour: Grey
- Mixture life: about 30 minutes at a temperature of +23°C
- Thickness applicable: from 1 to 25 mm per coat
- Admitted application temperatures: from +5°C to +35°C
- Consumption: 1.6 kg/m² per mm of thickness
- Walkable after: about 2 hours at a temperature of +23°C
- Waiting time for bonding: Ceramics and natural stone 4-6 hours
Parquet, textiles and resilient material 24 hours
- Storage time: 12 months inside the original packaging, in a dry place
- Packaging: 25 kg sacks



Litoplan Smart

Cementitious thixotropic levelling layer featuring rapid hardening and drying, with very low emissions of volatile organic substances (VOC), for vertical and horizontal applications for indoors and outdoors with thickness ranging from 1 to 25 mm.



Technical features

- Colour: Grey
- Mixture life: about 60 minutes at a temperature of +23°C
- Thickness applicable: from 1 to 25 mm per coat
- Admitted application temperatures: from +5°C to +35°C
- Consumption: 1.6 kg/m² per mm of thickness
- Walkable after: about 3 hours at a temperature of +23°C
- Waiting time for bonding: Ceramics and natural stone 4-6 hours
Parquet, textiles and resilient materials 24 hours
- Storage time: 12 months inside the original packaging, in a dry place
- Packaging: 25 kg sacks



Litoplaster T30

Cementitious structural plaster, fibre-reinforced, with high mechanical resistance for thicknesses from 4 to 30 mm. For indoors and outdoors.



Technical features

- Colour: Grey
- Mixture life: approx. 40 minutes at T=+23°C
- Thickness applicable: from 4 to 30 mm in a single coat
- Admitted application temperatures: from +5°C to +35°C
- Consumption: 15 kg/m² per cm of thickness
- Waiting time before applying further coats: from 24 hours to 7 days in accordance with the thickness and the temperature
- Storage time: 12 months inside the original packaging, in a dry place
- Packaging: 25 kg sacks



Litogips

Gypsum based levelling product for smoothing finishes on grouting, levelling and smoothing plasterboard. Indoor use



Technical features

- Colour: White
- Mixture life: approximately 50 minutes
- Thickness applicable: from 1 to 8 mm per coat
- Admitted application temperatures: from +5°C to +35°C
- Consumption: 0.9 kg/m² per mm of thickness
- Waiting time for painting or wall papering: approx. 24 hours
- Storage time: 12 months inside the original packaging, in a dry place
- Packaging: 20 kg sacks



Powder adhesives

■ **Choosing the adhesive**

The choice of the type of adhesive (classified according to the UNI EN 12004) must be done according to the following project data:

- Target environment;
- Type of substrate;
- Type of ceramic tile;
- Format of the ceramic tile

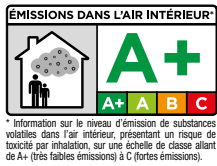
In the time set for laying tiles, it is important to check the environmental conditions. In general, laying ceramic tiles cannot be done when the temperature is below +5°C or above +35°C, nor done outside in the case of adverse weather conditions (rain, snow, wind).



■ **Volatile Organic Compounds (VOC)**

The category of volatile organic compounds or VOCs includes a number of substances (all containing carbon, hence the term “organic”) in complex mixtures that evaporate easily at room temperature.

Many products and materials in domestic dwellings contain VOCs, which can be released over time. Exposure can be reduced by eliminating products or materials that contain VOCs or by using those that release them in lesser quantities. Many Litokol adhesives have very low emissions of volatile organic compounds **EC1-R plus GEV-EMICODE - Class A +** according to French Regulations.



■ **Regulations for Construction. Products Declaration of Performance DoP**

The products conform to product harmonized standards and shown on the **Declaration of Performance DoP** as determined by the **Regulations on construction products (CPR - Construction Products Regulation N: 305/2011/EU)**.

The declarations of performance (DoP) are available on www.litokol.it.

■ **Mixing with elasticising additive Latexkol**



C1 class Litokol cementitious adhesives when mixed with Latexkol elasticising latex instead of water improve their performance and comply with the requirements of class C2-S2 (improved cementitious adhesive according to EN 12004 highly deformable according to UNI EN 12002). In this way, the mortar can be used for laying tiles in public, commercial and industrial areas, or in the most severe operating conditions such as: exterior façades, balconies, terraces, swimming pools, heated floors, concrete structures that are precast or cast in-situ, plasterboard, or for large format ceramic materials and thin slabs as well as reinforced ones.



■ **Design of ceramic tiling according to UNI 11493:2013**

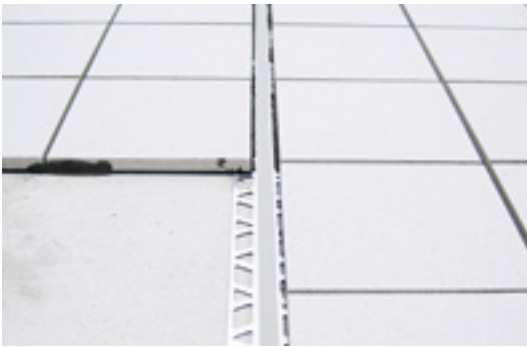
The durability of a ceramic tile can only be guaranteed by means of a good design of the same. We recommend that you consult with the national legislation in your country such as for example **UNI 11493:2013** for Italy which provides the necessary guidelines for choosing materials, correct design, use and installation, in order to ensure the achievement of the required levels of quality, presentation and durability. By way of example we show some requirements to adopt as a general rule

Substrates. Before laying, check that the substrates are clean, free of loose particles, thoroughly dry and mature, flat and level, and have sufficient mechanical strength in accordance with the intended use of the tiling.

Site conditions. Verify that the conditions for temperature, humidity, lighting, etc. at the time of product application are adequate.

Materials. Verify that all materials involved in the tiling (ceramics, levellers, adhesives, sealants, waterproofing products, etc.) are suitable for the intended use and properly stored.

Expansion joints. Verify that the perimeter flexible expansion, fraction and structural joints are properly designed and prepared. Generally fraction joints must be provided for partitions of 20/25 m² inside and 9-15 m² outdoors. For outdoors, verify that these joints are properly waterproofed and sealed.



Double coating. When laying outdoors, swimming pools, large formats, floors subject to heavy or intense traffic, thin slabs, vibrating substrates and situations where there are large changes in temperature, you need to apply the adhesive mortar on both the substrate and the back of the tiles in order to obtain a full bed of adhesive free from voids.



Grout joints.

In all types of ceramic tiling the grout joints must be of suitable width in accordance with the following parameters:

- Type, format and dimensional tolerances of the tiles
- Thermal expansion coefficients of the materials constituting the tiling
- Mechanical properties of the laying materials
- Location and path of the joints
- Mechanical features of the substrate
- Target environment and planned operating conditions

Laying with closed joints is not allowed
Any plastic spacers are to be removed before grouting.

Preparation of the mix

In a clean container, pour a suitable amount of water or Latexkol, and slowly add the powder by mixing with an electric drill fitted with a propeller mixer until you get a mix that is smooth and without lumps. Let the mix rest for at least 5 minutes and mix again for a few seconds.



Adhesive application, laying the tiles and grouting

Spread the mixture onto the substrate using the smooth part of the trowel to create a thickness of approx. 1mm and then immediately apply the product with the notched part of the trowel. The notches of the trowel must be chosen based on the format of the tiles to be laid. In any case, it must allow a **wetting of the reverse side of the tiles by 65-70% in the case of indoor installation and by 100% in case of outdoor installation** or for floors subject to heavy traffic. When laying outdoors or in areas that are particularly stressed, it is recommended to also apply the adhesive on the back of the tiles (**double coating method**).



The tiles are laid on the adhesive using a firm pressure in order to ensure contact with the adhesive. Very hot or windy climates or very absorbent substrates can drastically reduce the open time of the product to a few minutes, therefore it is **recommended to frequently check that the adhesive has not formed a superficial skin**. If a superficial skin has formed it is necessary to go over the adhesive with the notched trowel. The tiles must be laid creating grout joints of suitable width.

During installation, respect any **expansion, perimeter, fraction or structural joints**.



In external the tiled surface must be protected for at least 24 hours from any water and for approx. 5-7 days from frost or direct sunlight.

The grout joints between the tiles can be sealed after 6-8 hours in the case of claddings and after 24 hours for floors. For grouting the cementitious sealants Litochrom 0-2, Litochrom 1-6, Litochrom 3-15 can be used. For indoor walls or flooring and exterior walls it is possible to use Starlike® Monomix ready-to-use polymer mortar. In the case of acid-resistant floors, we recommend the use of Epoxistuk X90 or Starlike® two-component epoxy mortar.



Laying thin porcelain stoneware slabs

The standard **UNI 11493:2013** in force in Italy which provides the necessary guidelines for choosing materials, proper design, use and installation of ceramic tiling defines **thin tiles/slabs as those with a side length not greater than 5.5 mm**.



Thin slabs of **reinforced layers of polymeric mesh, mats, etc.** may present possible critical factors related to their behaviour in contact with adhesives and materials on which the application is planned. Such guidelines can be extended to mosaics fitted to mesh.

Litokol can support its customers in choosing the best solutions by consulting our technical support office.

Slabs obtained by compaction and by pressing

The thin porcelain stoneware slabs currently available on the market fall into two categories:

1 - Slabs obtained through a gradual compaction process on a conveyor belt without the aid of moulds, with subsequent baking at 1200°C and trimming. They have a thickness of 3mm and a maximum format of 1 x 3 m.

These slabs are produced in three types:

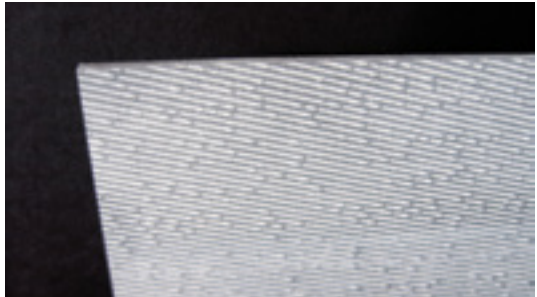
1.a - Natural slabs with 3 mm thickness suitable mainly for wall applications.

1.b - Slabs with reinforced backing through the bonding of a glass mat with polyurethane resin during the production process, with a thickness varying from 3.5 mm to 5.5 mm and characterized by an increased resistance to trampling.

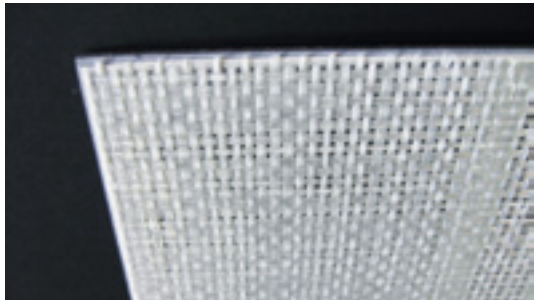


Installation on facades

1.c - Paired slabs having a total thickness of 7 mm, consisting of two 3 mm slabs joined with an interposed fibreglass mat, suitable for high traffic flooring.



Natural slab of 3 mm thickness



Slab with reinforced back of 3.5 mm thickness

2 - Slabs obtained by pressing in ceramic moulds and subsequent firing at 1200°C with a thickness varying from 3,5 to 5,5 mm and formats up to 8100 cm². The reinforced back is not available for this type of material.

Reduced thickness, large formats, extremely low water absorption that characterises porcelain stoneware and a bonding surface consisting of a glass mat embedded in polyurethane resin are the distinctive features that these ceramic products have in common, all of which must be considered for the installation to favour adequate surface durability.



Laying and grouting of thin slabs

Certain guidelines are valid for all slab formats and every kind of application (flooring, wall, indoor, outdoor).

1. The double coating technique must always be adopted when using the adhesive, applied on the substrate as well as the back of the slabs with the proper notched trowel, to achieve thorough wetting and prevent the formation of voids.



2. A 2-3 mm space must be left between the slabs to interrupt surface continuity, in order to reduce the elasticity modulus and, therefore, its rigidity. The elastic modulus of the grouting material is significantly inferior to that of the slabs. Conveying greater elasticity to the tiled surface prevents dangerous stresses due to expansions caused by temperature changes, hygrometric shrinkage or settling of the structures that could lead to the detachment of the slabs.

3. The creation of elastic fraction joints and the compliance of any structural joints is mandatory in the case of surfaces greater than 25 m².

Likewise, **perimeter joints** are required in correspondence with walls or other elevations, such as columns, steps, etc., on smaller surfaces also.

Choice of adhesive for installation of thin slabs

The choice of the adhesive is determined by several factors listed below and will be reported in the following synoptic tables for additional clarity. The factors that determine the choice of the adhesive are:

- Format of the slabs;
- Type of slab: “natural” slabs without reinforcement or “reinforced” with a glass mat on the back;
- Type of substrate;
- Indoor or outdoor areas;
- Flooring or walls;
- Requirements of rapid application of the ceramic cladding;

Thin slabs meet the requirements of architects and designers who choose this kind of material in order to obtain continuous surfaces, thereby minimising the grout joints, thanks to the possibility of being produced in large formats. Nevertheless, a number of precautions must be taken by the installers when laying large formats and these are provided below.

• Handling

Firstly, utmost attention must be paid when moving these slabs, which as already mentioned, can reach a format of 1 x 3 metres.

• Double coating

As mentioned, thin slabs always require the **double coating** technique during installation, therefore it is preferable to choose adhesives with an **extended setting time (E)** to prevent the film on the surface from forming too quickly or, in any case, before laying the slabs. This precaution is more important in the presence of warm weather, for slab formats exceeding 3600 cm² or when installed on an outdoor facade, where it is likely to be exposed to more ventilation.

• Flatness

Maintaining flatness is one of the main difficulties encountered when laying large format thin slabs. Often, “steps” are formed at the corners because the substrates are not perfectly flat or due to the flexibility of the slabs themselves. An aid to installers can come from the use of Litokol spacers for laying flat large formats (art. 170/K) as they provide an ideal positioning of the slabs until complete hardening of the adhesive.

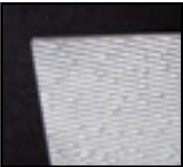


• Grouting

Grouting of the joints can be done using both cement-based grouts and two-component epoxy mortar or Starlike® Monomix ready-to-use polymer mortar. If you use a cement-based product Litokol suggests Litochrom 1-6.

If you choose to create a more resistant grouting, completely non-absorbing and with high surface cleanability, Litokol recommends the use of Starlike® epoxy mortar suitable for grouting joints of width between 1 and 15 mm.

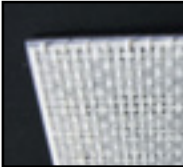
THIN SLABS NATURAL Internal walls



THIN SLABS NATURAL External walls



THIN SLABS REINFORCED Internal and external floors



Substrates	Normal-setting adhesives	Quick-setting adhesives	
	Adhesives (type and class)	Adhesives (type and class)	
Cementitious plasters	SUPERFLEX K77 C2TE-S1	LITOSTONE K99 +30% LATEXKOL Diluted in water 1:1 C2FE-S1	
Gypsum-based plasters*			
Plasterboard or gypsum-based panels*			
Concrete			
Existing walls in ceramic tiles, natural stone and marble**	For all formats up to 300x100cm		For all formats up to 300x100cm
Wood panelling and metal surfaces	LITOELASTIC R2T		For all formats up to 300x100cm

*After Primer C has been applied

** After cleaning and degreasing with water and caustic soda

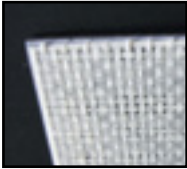
Substrates	Normal-setting adhesives		Quick-setting adhesives	
	Adhesives (type and class)		Adhesives (type and class)	
Cementitious plasters	SUPERFLEX K77 C2TE-S1	CEMENTKOL K21 +30% LATEXKOL C2-S2	LITOSTONE K99 +30% LATEXKOL Diluted in water 1:1 C2FE-S1	LITOSTONE K99 +30% LATEXKOL C2FE-S2
Concrete				
	For all formats up to 100x50cm	For all formats up to 100x100cm	For all formats up to 100x50cm	For all formats up to 100x100cm

Substrates	Normal-setting adhesives		Quick-setting adhesives	
	Adhesives (type and class)		Adhesives (type and class)	
Cementitious screeds	SUPERFLEX K77 C2TE-S1	CEMENTKOL K21 +30% LATEXKOL C2-S2	LITOSTONE K99 +30% LATEXKOL Diluted in water 1:1 C2FE-S1	LITOSTONE K99 +30% LATEXKOL C2FE-S2
Anhydrite screeds*				
Concrete				
Existing floors in ceramic tiles, natural stone and marble**			For all formats up to 100x50cm	
Heated screeds	CEMENTKOL K21 +30% LATEXKOL C2-S2	For all formats up to 300x100cm	LITOSTONE K99 +30% LATEXKOL C2FE-S2	For all formats up to 300x100cm
	For all formats up to 300x100cm		For all formats up to 300x100cm	
Wood, PVC, rubber, metal surfaces	LITOELASTIC R2T			
	For all formats up to 300x100cm			

*After Primer C has been applied

** After cleaning and degreasing with water and caustic soda

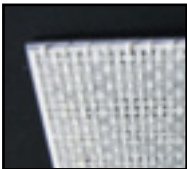
THIN SLABS
REINFORCED
Internal walls



Substrates	Normal-setting adhesives		Quick-setting adhesives	
	Adhesives (type and class)		Adhesives (type and class)	
Cementitious plasters	SUPERFLEX K77 C2TE-S1	CEMENTKOL K21 +30% LATEXKOL C2-S2	LITOSTONE K99 +30% LATEXKOL Diluted in water 1:1 C2FE-S1	LITOSTONE K99 +30% LATEXKOL C2FE-S2
Gypsum-based plasters*				
Plasterboard or gypsum-based panels*				
Concrete				
Existing walls in ceramic tiles, natural stone and marble**	For all formats up to 100x50cm	For all formats up to 300x100cm	For all formats up to 100x50cm	For all formats up to 300x100cm
Wood panelling and metal surfaces	LITOELASTIC R2T For all formats up to 300x100cm			

* After Primer C has been applied
** After cleaning and degreasing with water and caustic soda

THIN SLABS
REINFORCED
External walls



Substrates	Normal-setting adhesives		Quick-setting adhesives	
	Adhesives (type and class)		Adhesives (type and class)	
Cementitious plasters	CEMENTKOL K21 +30% LATEXKOL C2-S2 For all formats up to 300x100cm		LITOSTONE K99 +30% LATEXKOL C2FE-S2 For all formats up to 300x100cm	
Concrete				

Key User
pictograms



Intended use of the ceramic tiling



Suitable for installation in swimming pools



Suitable for installation on heated floors



Suitable for installation on flooring subject to heavy traffic



Suitable for overlaying on existing tiles



Suitable for glueing polystyrene and expanded polyurethane panels, glass wool, rock wool, soundproof panels, elements of aerated concrete.

Reading the
catalogue

Product photographic
images

Product name

Product description

Technical features
(for correct use and further
information consult the
technical sheets on www.litokol.it)



Litokol X11- Litokol X12
Enhanced cementitious adhesive with no vertical slip and with extended open time for the laying of ceramic tiles indoors and outdoors on flooring and walls.



Technical features
Colours: Litokol X11 - grey/ Litokol X12 - white
Usable life of mixture: over 8 hours
Open time (EN1346): ≥ 0.5 n/mm² after 30 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 6 - 8 - 10
Consumption (kg/m²): from 2.5 to 4 kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks.

Regulatory pictograms and
product certifications

Pictograms of product use



Litokol X11-Litokol X12
Enhanced cementitious adhesive with no vertical slip and with extended open time for the laying of ceramic tiles indoors and outdoors on flooring and walls.



Technical features
Colours:
Litokol X11 - Grey
Litokol X12 - White
Usable life of mixture: over 8 hours
Open time (EN1346): ≥ 0.5 N/mm² after 30 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 6 - 8 - 10
Consumption (kg/m²): from 2.5 to 4 kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Cementkol K21 -Cementkol K22
Normal cementitious adhesive for the laying of ceramic tiles indoors on floors and walls and outdoors on floors.



Technical features
Colours:
Cementkol K21 - Grey
Cementkol K22 - White
Mixture life: Over 8 hours
Open time (EN1346): ≥ 0.5 N/mm² after 20 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 6 - 8 - 10
Consumption (kg/m²): from 2.5 to >5 kg/m² back-buttering
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks - boxes of 5 bags of 5 kg.



Litokol K17-Litokol K18
Normal cementitious adhesive for the laying of ceramic tiles indoors on floors and walls and outdoors on floors.



Technical features
Colours:
Litokol K17 - Grey
Litokol K18 - White
Mixture life: Over 8 hours
Open time (EN 1346): ≥ 0.5 N/mm² after 20 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 6 - 8 - 10
Consumption (kg/m²): from 2.5 to kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Litoblanc K2
Superwhite normal cementitious adhesive with no vertical slip for the laying of ceramic tiles and glass mosaics indoors on floors and walls and outdoors on floors.



Technical features
Colours: White
Mixture life: Over 8 hours
Open time (EN 1346): ≥ 0.5 N/mm² after 20 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 4 - 6 - 8
Consumption (kg/m²): from 2.5 to 3 kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks

Litoflex K80
Enhanced cementitious adhesive with long open time, for the laying of ceramic tiles indoors and outdoors on flooring and walls. Suitable for overlaying and heated flooring.



Technical features
Colours: Grey - White
Mixture life: Over 8 hours
Open time (EN 1346): ≥ 0.5 N/mm² after 30 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 6-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 6 - 8 - 10 - 15
Consumption (kg/m²): from 2.5 to 5 kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Litoflex K80 Export
Enhanced cementitious adhesive with no vertical slip and with extended open time for the laying of ceramic tiles indoors and outdoors on flooring and walls. Suitable for overlaying and for heated flooring



Technical features
Colours: Grey - White
Mixture life: Over 8 hours
Open time (EN 1346): ≥ 0.5 N/mm² after 30 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 6 - 8 - 10 - 15
Consumption (kg/m²): from 2.5 to 5 kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks (Grey - White)
boxes of 5 bags of 5 kg (Grey)



Litoplus K55
Superwhite cementitious adhesive, enhanced, with zero vertical slip and extended open time for the laying of ceramics and mosaics indoors and outdoors on flooring and walls. Suitable for swimming pools, overlaying and heated flooring.



Technical features
Colours: White
Mixture life: Over 8 hours
Open time (EN 1346): ≥ 0.5 N/mm² after 30 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 4 - 6 - 8
Consumption (kg/m²): from 2.5 to 3 kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Superflex K77
Enhanced cementitious adhesive, deformable, with zero vertical slip and extended open time, suitable for the laying of porcelain tiles and large format natural stone indoors and outdoors on flooring and walls. Suitable for overlaying and for heated screeds. The white type is suitable also for laying glass mosaics and ceramics.



Technical features
Colours: Grey - White
Mixture life: Over 8 hours
Open time (EN 1346): ≥ 0.5 N/mm² after 40 minutes
Waiting time before grouting:
Flooring approx. 24 hours
Walls approx. 4-8 hours
Walkable after: 24 hours
Waiting time before commissioning: 14 days
Recommended trowel (mm): 4 - 6 - 8 - 10 - 15
Consumption (kg/m²): from 2.5 to 7 kg/m² back-buttering
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks

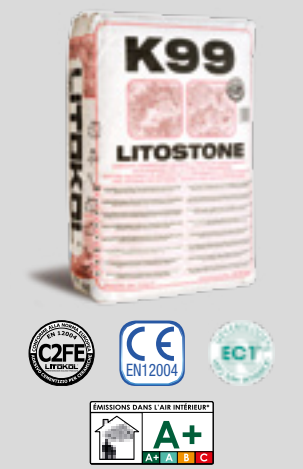




Litofast K86
Enhanced cementitious adhesive, fast setting with no vertical slip, for the laying of ceramic tiles and natural stone indoors and outdoors on flooring and walls. Suitable for overlaying and for heated flooring.



Technical features
Colours: Grey
Mixture life: Approx. 1 hour
Open time (EN 1346): ≥ 0.5 N/mm² after 20 minutes
Waiting time before grouting: approx. 4 hours
Walkable after: 6 hours
Waiting time before commissioning: 24 hours
Recommended trowel (mm): 6 - 8 - 10 - 10 back-buttering
Consumption (kg/m²): from 2.5 to 5 Kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks



Litostone K99
Superwhite cementitious adhesive, enhanced, quick setting and extended open time for the laying of ceramic tiles and natural stone indoors and outdoors on flooring and walls. Suitable for overlaying and for heated flooring.



Technical features
Colours: White
Mixture life: Approx. 1 hour
Open time (EN 1346): ≥ 0.5 N/mm² after 30 minutes
Waiting time before grouting: approx. 4 hours
Walkable after: 6 hours
Waiting time before commissioning: 24 hours
Recommended trowel (mm): 6 - 8 - 10
Consumption (kg/m²): from 2.5 to 5 Kg/m² back-buttering
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks

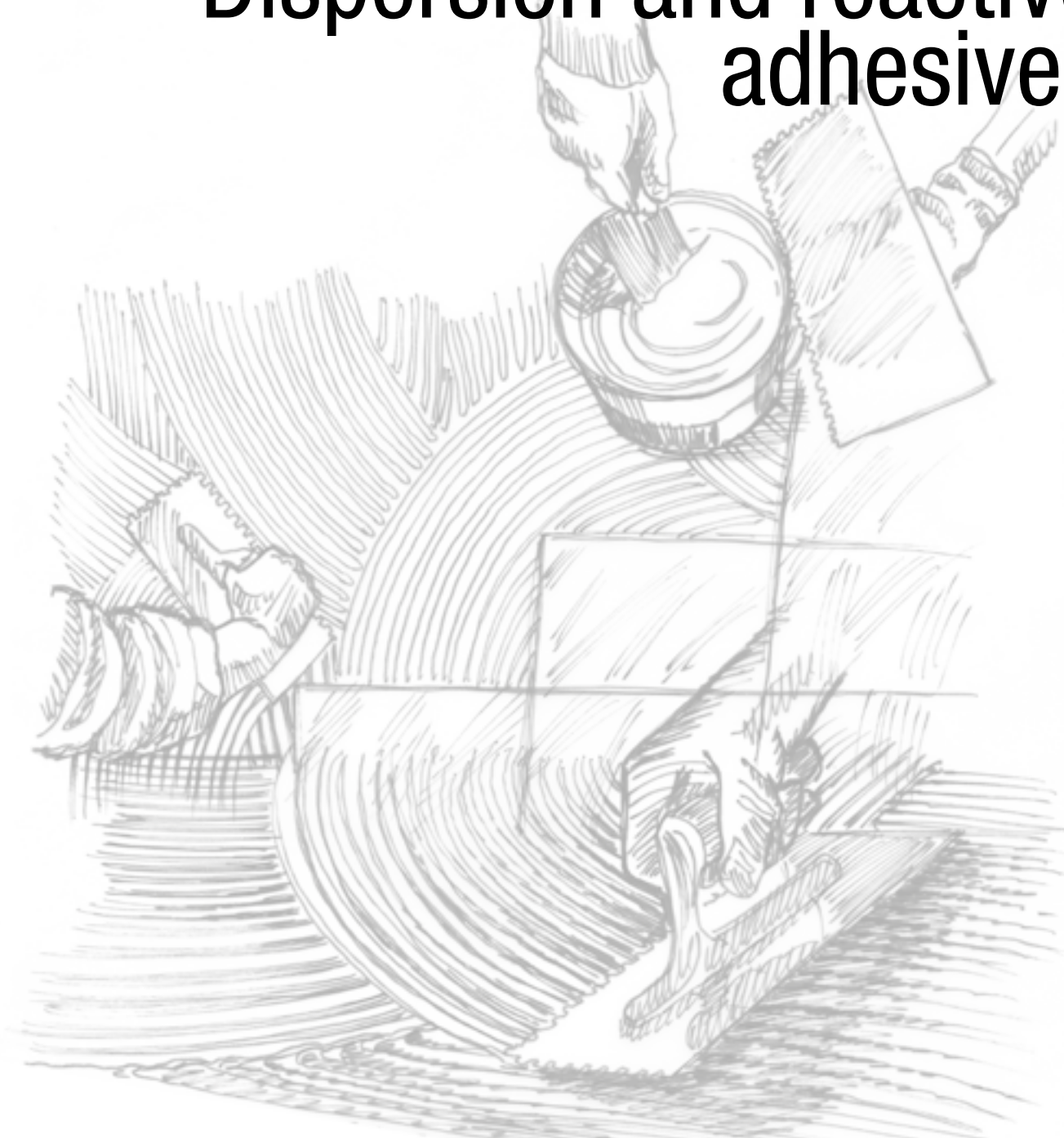


Litoflott K88
Self-wetting enhanced cementitious adhesive, quick setting and long open time for the laying of ceramic tiles and natural stone on interior and exterior flooring. Suitable for overlaying and for heated flooring.



Technical features
Colours: Grey
Mixture life: Approx. 1 hour
Open time (EN 1346): ≥ 0.5 N/mm² after 30 minutes
Waiting time before grouting: Flooring approx. 4 hours
Walkable after: 6 hours
Waiting time before commissioning: 24 hours
Recommended trowel (mm): 8 - 10 - 15
Consumption (kg/m²): from 2.5 to 7 Kg/m²
Storage time:
12 months inside the original packaging, in a dry place
Packaging: 25 kg sacks

Dispersion and reactive adhesives



Dispersion adhesives

The dispersion adhesive is a mixture of organic binding agents in the form of polymer dispersions in aqueous dispersion, organic additives and mineral fillers. The mixture is ready for use and does not require any preparation.

Dispersion adhesives are designated as D type.

Application

Apply the product with a notched trowel directly onto the substrate. Since products in aqueous dispersion do not contain cement, the drying and the consequent hardening occur by evaporation of the water. Check then that the substrate or the tile has a sufficient absorption grade to allow the adhesive to dry.



The tiles are laid on the adhesive using a firm pressure in order to ensure contact with the adhesive. The open time in normal conditions of temperature and



humidity ranges from 20 to 30 minutes depending on the product.

Very hot or windy climates or very absorbent substrates can reduce the time significantly to a few minutes. It is therefore recommended to frequently check that the adhesive has not formed a surface film. **The installation with united joints (juxtaposed tiles) is not recommended.**

During installation, respect any expansion or splitting joints. Leave a space of at least 5 mm at the walls or at any surface elevation.

The commissioning of tiled surfaces may occur after about 7-10 days depending on the absorption of the substrate and the environmental conditions.



Glueing of insulating panels with dispersion adhesives

In addition to the glueing of all types of ceramic tiles on interior floors and walls, dispersion adhesives are also suitable for glueing in interior walls and ceiling panels in polystyrene and expanded polyurethane, glass wool, rock wool, sound-absorbing panels on absorbent substrates.

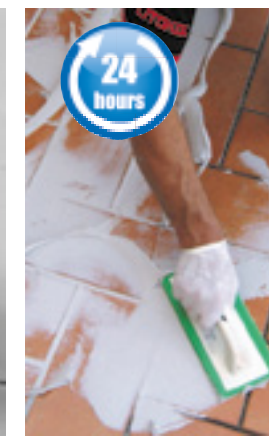
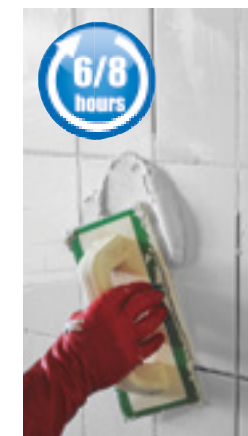
The application of adhesive can be carried out using a notched trowel all over the surface, or can be applied just in several points, observing the open time of the product. In any case, the quantity of adhesive applied should be sufficient to ensure a good bonding of the panels. The slabs will then be put in place by pressing firmly in order to obtain a good degree of adhesion.



Grouting of tiled surfaces

The grout joints between the tiles can be sealed after 6-8 hours in the case of claddings and after 24 hours for floors.

For sealing, you can use the cementitious grouts Litochrom 0-2, Litochrom 1-6, Litochrom 3-15, the two-component epoxy mortar Starlike® or EPOXYSTUK X90 or polymeric mortar Starlike® Monomix.



Reactive adhesives

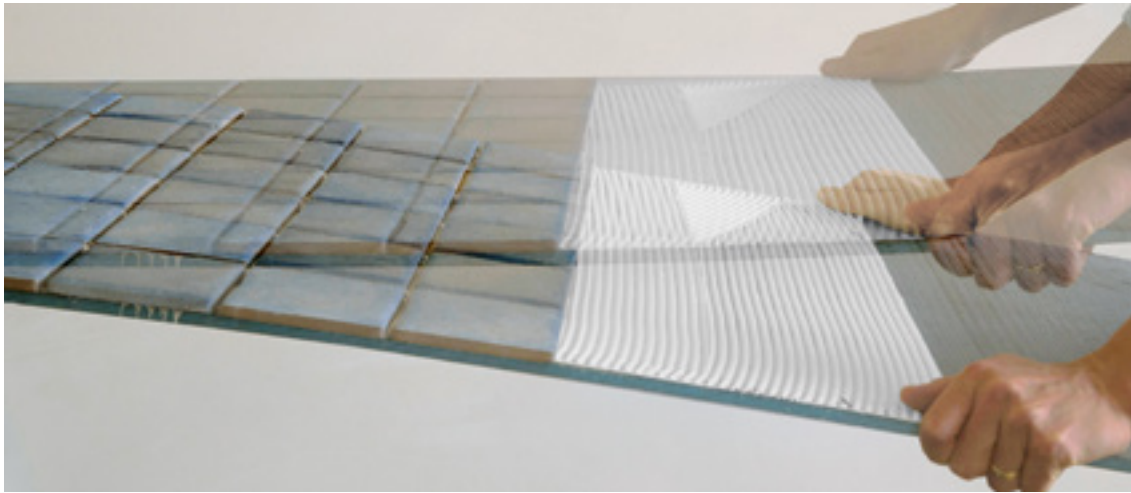
The reactive adhesive is a mixture of synthetic epoxy-polyurethane resins, inert fillers and organic additives, wherein the hardening occurs by chemical reaction induced by a catalyst.

These adhesives are available as one or two-part components.

The reactive adhesives are designated as R type.

Application

The two-part epoxy-polyurethane reactive adhesive Litoelastic is suitable for the simultaneous glueing and waterproofing of all types of ceramic tiles, mosaics and natural stones even if unstable to moisture, interior and exterior floors and walls and also on elastic and moveable substrates, such as wood panelling and metal surfaces.



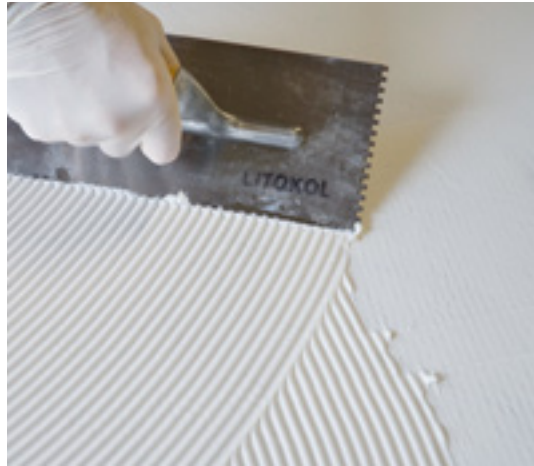
Waterproofing of surfaces and glueing

To obtain the simultaneous waterproofing of the surface, you can proceed in two ways:

1 - Apply the product with a smooth trowel to a thickness of about 2 mm and apply an additional quantity of adhesive immediately after with the notched side of the trowel, leaving a continuous 1 mm thick layer of the product.



2 - Create a levelling of at least 1 mm of thickness. When the product is walkable (approx. 24 hours), then glue the ceramic tiles using a notched trowel.



User pictogram key



Ready to use dispersion adhesive



Target areas of the ceramic tiling



Suitable for overlaying on existing tiles



Glueing of all types of ceramic tiles



Glueing of natural stones even unstable to moisture



Suitable for simultaneous glueing and waterproofing



Two-component reactive adhesive



Indoor wet areas floor or walls



Suitable for glueing polystyrene and expanded polyurethane panels, glass wool, rock wool, soundproof panels, elements of aerated concrete.



Glueing of glass mosaics and ceramics



Suitable for elastic and moveable substrates or metal surfaces

For correct use and further information consult the technical sheets on www.litokol.it

Adesivo Universale LK78

Ready to use dispersion adhesive with long open time for the laying of ceramic tiles for indoor flooring and wall.



Technical features

Colour: White
Open time (EN 1346): > 0.5 N/mm² after 30 minutes
Application temperatures allowed: from +5°C to +35°C
Adjustability time: approximately 60 minutes
Temperature of use: from - 30°C to +90°C
Consumption: 1.5 - 3 kg/m²
0.8 - 2.5 kg/m² (insulating materials)
Recommended trowel: 4 - 6 - 8
Waiting time before grouting: approx. 24 hours
Walkable after: 24 hours
Waiting time before commissioning: 7-10 days
Storage time:
24 months in its original packaging. Protect from frost
Packaging: 2.5 - 5 - 10 - 25 kg buckets



Litoacril Plus

High-performance non-slip dispersion adhesive with extended open time, for fixing ceramic tiles in indoor, also in humid areas, flooring and wall.



Technical features

Colour: White
Open time (EN 1346): > 0.5 N/mm² after 30 minutes
Application temperatures allowed: from +5°C to +35°C
Adjustability time: approximately 60 minutes
Temperature of use: from - 30°C to +90°C
Consumption: 1.5 - 4 kg/m²
0.8 - 2.5 kg/m² (insulating material)
Recommended trowel: 4 - 6 - 8 - 10
Waiting time before grouting: approx. 24 hours
Walkable after: 24 hours
Waiting time before commissioning: 7-10 days
Storage time:
24 months in its original packaging. Protect from frost
Packaging: 5 kg buckets
boxes of 24 buckets of 1 kg.





Litoacril LA 315
Ready to use non-slip dispersion adhesive with extended open time for the laying of ceramic tiles for indoor flooring and wall.



Technical features
Colour: Grey
Open time (EN 1346): > 0.5 N/mm² after 30 minutes
Application temperatures allowed: from +5°C to +35°C
Adjustability time: approximately 60 minutes
Temperature of use: from - 30°C to +90°C
Consumption: 2 - 4 kg/m²
0.8 - 2.5 kg/m² (insulating materials)
Recommended trowel: 6 - 8 - 10
Waiting time before grouting: approx. 24 hours
Walkable after: 24 hours
Waiting time before commissioning: 7-10 days
Storage time:
24 months in its original packaging. Protect from frost
Packaging: 2.5 - 5 - 10 - 25 kg buckets



Litoacril LA 201
Ready to use non-slip dispersion adhesive for the laying of ceramic tiles for indoor flooring and wall.



Technical features
Colour: White
Open time (EN 1346): > 0.5 N/mm² after 20 minutes
Application temperatures allowed: from +5°C to +35°C
Adjustability time: approximately 60 minutes
Temperature of use: from - 30°C to +90°C
Consumption: 1.5 - 4 kg/m²
0.8 - 2.5 kg/m² (insulating material)
Recommended trowel: 4 - 6 - 8 - 10
Waiting time before grouting: approx. 24 hours
Walkable after: 24 hours
Waiting time before commissioning: 7-10 days
Storage time:
24 months in its original packaging. Protect from frost
Packaging: 5 - 10 - 25 kg buckets



Litoacril Fix
Ready to use dispersion adhesive for the laying of ceramic tiles for indoor flooring and wall.



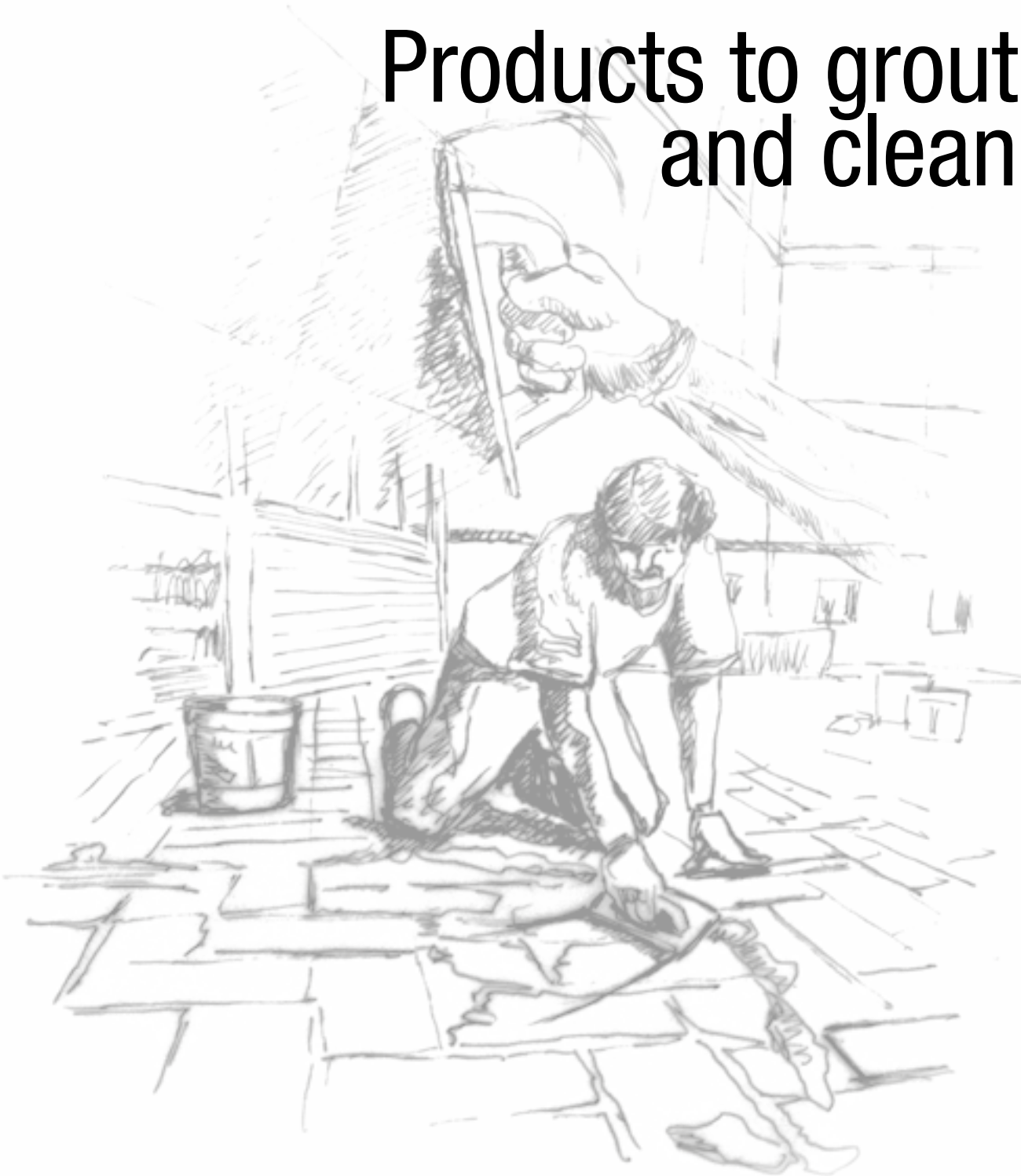
Technical features
Colour: White
Open time (EN 1346): > 0.5 N/mm² after 20 minutes
Application temperatures allowed: from +5°C to +35°C
Adjustability time: approximately 60 minutes
Temperature of use: from - 30°C to +90°C
Consumption: 1.5 - 4 kg/m²
0.8 - 2.5 kg/m² (insulating material)
Recommended trowel: 4 - 6 - 8 - 10
Waiting time before grouting: approx. 24 hours
Walkable after: 24 hours
Waiting time before commissioning: 7-10 days
Storage time:
24 months in its original packaging. Protect from frost
Packaging: 5 kg buckets



Litoelastic
High-performance reactive adhesive, two-part epoxy-polyurethane for the fixing of ceramic tiles, mosaics, natural and reconstituted stone.



Technical features
Colour:
Component A: White
Component B: Beige
Open time (EN 1346): > 0.5 N/mm² after 50 minutes
Application temperatures allowed: from +10°C to +35°C
Adjustability time: approximately 1 hour
Temperature of use: from -40°C to +100°C
Consumption: 2 - 3.5 kg/m²
4 - 5 kg/m² (double coating)
Recommended trowel: 6 - 8 - 10
Waiting time before grouting: approx. 24 hours
Walkable after: 24 hours
Waiting time before commissioning: 7 days
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 5 kg (A+B) - 10 kg (A+B) buckets



Cementitious
grout

Mixture of hydraulic binders, calcareous and siliceous aggregates, organic additives. The grout must be mixed with water or liquid additive prior to use.
The cementitious grout are designated as CG type.



Reactive grout

Mixture of epoxy resins, quartz aggregates and organic additives, wherein the hardening takes place via chemical reaction with the catalyst.
Products consisting of two or more components.
The reactive grout are designated as RG type.

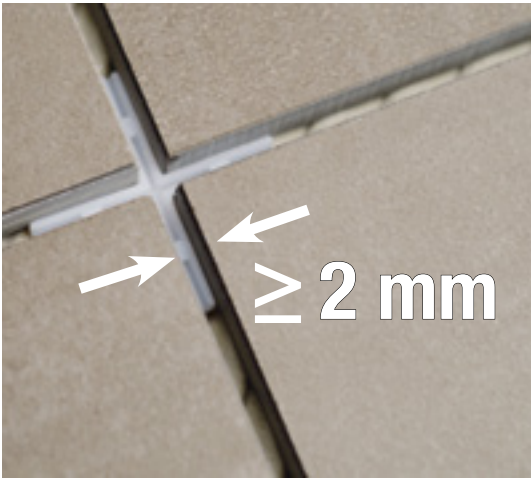


Choice of material
for grout joints

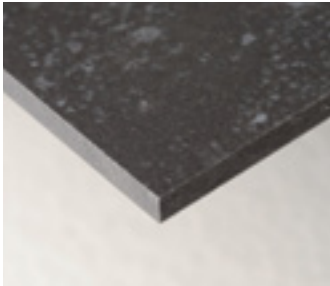
The choice of material for grout joints must be made in accordance with the following project criteria:
- **Width of the joint;**
- **Target area** (indoors/outdoors) and planned conditions of use.
Type of ceramic tile (pressed / extruded; rectified / non-rectified)

Joint width
and type
of ceramic
tiling

Laying with “closed joints” is not allowed. Under no circumstances can a joint with a width of less than 2 mm be used. The width of the joints can range approximately from 2/3 mm in the case of tiles obtained by pressing, with good dimensional regularity (rectified tiles) in indoor areas, on both rigid and dimensionally stable substrates, up to 6/8 mm in reverse situations.



Pressed tile



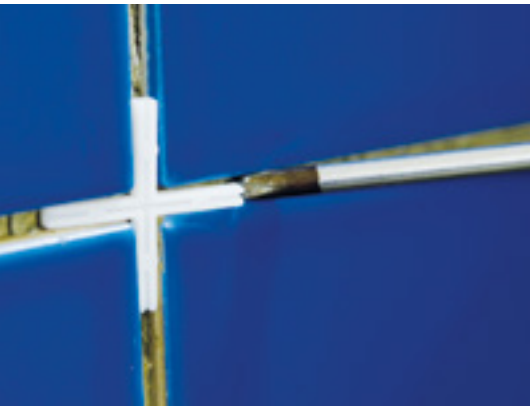
Pressed and rectified tile



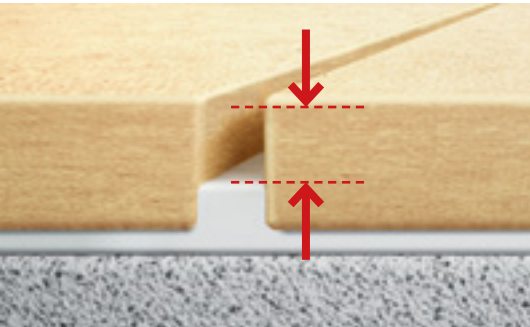
Extruded tile

Preparation and
application of
joint filling
material

The filling of joints must be done after the drying time depending on the type of tile applied, the type of adhesive used and the environmental conditions.
It is preferable for the spacers used to ensure the linearity of the joints to be removed before grouting.



The joints to be filled must be empty and free for at least two thirds of the tile thickness.



In the case of thin tiles, the joints must be empty and free for their entire thickness.



This also applies in the case of removing old grouting in order to re-fill the joint with new grouting.



Cementitious grout: preparation of the mix
Pour a suitable amount of liquid into a clean container and slowly add the powder, mixing with an electric drill fitted with a propeller mixer until you get a mix that is smooth and without lumps.
Let the mix rest for at least 5 minutes and mix again for a few seconds.



Grouting of tiled surfaces
Introduce the mixture into the joints using a special rubber trowel, making diagonal movements across the joints, taking care to fill the entire thickness of the tiles without leaving any gaps. The excess material is always removed by using the rubber trowel.



Cleaning and finishing
Once the waiting time for cleaning has elapsed, that is, when the sealant has lost its plasticity and has become opaque (usually 5 to 20 minutes depending on the absorption of the tiles and the climatic conditions), you can proceed with cleaning and finishing the surface of the joints using a damp stiff cellulose sponge. Always use diagonal movements with respect to the direction of the joints so as not to remove any filling.



Preparation and application of joint filling material

Reactive grouts: preparation of the mix
Pour the catalyst (component B) on component A (paste).
We recommend you pour the entire contents of the catalyst, rolling and squeezing progressively from the sealed side of the bag to the cut side.
Mix by using the electric drill equipped with mixing paddle until obtaining a homogeneous and lump-free mixture.
With a spatula or trowel, scrape the walls and base of the bucket to avoid any parts of non-catalysed product remnants.
It is not recommended to mix by hand.
The packages of the 2 components are previously dosed so as to avoid any mixing errors.
The mixture obtained can be worked for approximately 1 hour at a temperature of approximately +23°C.



Grouting of tiled surfaces
Introduce the mixture into the joints using the special green rubber trowel (Art. 104/G).
For large surfaces you can use an electric single-brush equipped with an abrasion-resistant rubber scraper. Remove excess product with the same rubber trowel. The surface can be walked on after 24 hours.
At a temperature of +15°C you must wait three days before walking on it. Commissioning of the flooring with consequent chemical exposure is possible after 5 days at a temperature of +23 ° C and after 10 days at a temperature of +15 ° C.



Cleaning and finishing
Cleaning and finishing of the grouting should be carried out when the product is still fresh, and in any case as soon as possible, taking care not to remove any grouting from the joints and without leaving

streaks on the surface of the tiles. This can be done by hand or by using the special electric single-brush equipped with felt.
Sprinkle clean water over the grouted surface beforehand.
Perform an initial cleaning using the trowel equipped with moistened white felt (art. 109 / G), using circular movements both clockwise and anticlockwise, in order to seal perfectly the sides of the tiles and to remove the excess sealant from the tile surface.



Then go over it again using the rigid cellulose sponge (Art. 128 / G) to obtain a smooth, closed surface, completely removing the product from the tiles without removing it from the joints, and drying the excess water.



When the felt and sponge are full of resin and can no longer be cleaned, they must be replaced.
Any streaks or residues of transparent product can be removed from the tiled surface after about 24 hours, or after the hardening of the joint, using the specific cleaning products - Litonet (flooring) and Litonet Gel (claddings).



Starlike®: the first UV-resistant epoxy grout

UV rays: an enemy for joints and grouts
The action of UV rays, associated with temperature, humidity and pollutants, can cause photochemical reactions that can damage the grout.
The consequence is the discolouration of the joint due to gradual yellowing, which is much more visible in outdoor applications and on light colours.



Litokol-Fotosta research

The Fotosta research (development of photochemically stable epoxy mortars) was carried out in collaboration with the Chemistry Department of the University of Modena and Reggio Emilia.
The product formulations have been optimised in order to make **Starlike® the only sealant on the market resistant to the action of UV rays.**
As there are no specific standards to assess the stability of epoxy matrix sealants, Litokol chose to test Starlike® according to the requirements of the international standard UNI EN ISO11341: 2004 on glazed products subjected to artificial ageing.

Litokol's modern laboratories are equipped with the new artificial ageing system (weathering test).
The machine simulates and accelerates the natural breakdown of materials by UV rays in different environmental conditions. Cycles of 20 consecutive hours were carried out for an equivalent exposure time of 230 MJ m² of radiant energy (1300 machine hours).
The joule (J) is the unit of measurement of energy; the megajoule (MJ) is equal to 1,000,000 joules.
The tests were carried out on Absolute White, the most sensitive to the yellowing processes.



Tests show that Starlike® has reached the maximum degree of resistance to the yellowing and ageing processes caused by both UV exposure and in the form of combined meteorological and climatic action, ensuring functional and aesthetic stability over time, even for use in the most severe environmental conditions. For these reasons, Starlike® can be declared "UV RESISTANT".

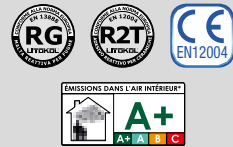
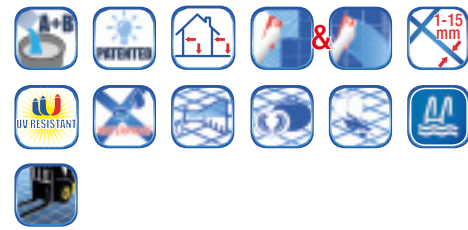
User pictogram key

 Ready-to-use single component grout	 Target environments	 Suitable for contact with foodstuffs
 Two-component reactive grout	 Joint width	 Anti-stain grouting
 Cementitious grout	 UV ray resistant grouting	 Suitable for use in swimming pools
 Patented product	 Non-absorbent grouting	 Suitable for installation on flooring subject to heavy traffic
 Product usable as glue and grout	 Grouting resistant to contact with chemical agents	 Suitable for elastic and moveable substrates or metal surfaces

For correct use and further information consult the technical sheets on www.litokol.it

**Starlike®**

Two-component acid-resistant epoxy mortar for the installation and grouting of ceramic tiles and mosaics with joints of 1 to 15 mm width.
Patented product 05744761.7 B1



Technical features

Classic collection:

Bianco assoluto C.470 / Bianco Ghiaccio C.270 / Titanio C.310
Silver C. 220 / Ardesia C.480 / Antracite C.240 / Grigio C. 280
Moka C. 420 / Pietra d'Assisi C. 300 / Sabbia C.250 / Tortora C.490
Travertino C.290

Glamour collection:

Turchese C.400 / Artic blu C.390 / Zaffiro C.260 / Corallo C.230
Lilla C. 380 / Ciclamino C. 370 / Melanzana C.360 / Lime C.440
Mela C.410 / Limone C. 430 / Arancio C.460 / Rosso Oriente C. 450

Metallic collection:

Platinum / Shining Gold / Bronze / Copper / Rusty

Mixture life: approximately 1 hr at $T = +23^{\circ}\text{C}$

Walkable after: 24 hours at $T=+23^{\circ}\text{C}$

Fully usable after: 5 days at T=+23°C

Consumption: refer to table

Storage time: 24 months inside the original packaging, in a dry place

Packaging: 2.5 - 5 - 10 kg buckets



Suitable for grouting:

- Porcelain stoneware
- Clinker
- Glass mosaic
- Metallic mosaic
- Natural stone
- Reconstituted stone
- Wood
- Pebbles
- Glass bricks

Suitable for laying and grouting floors and walls in:

- Bathrooms
- Shower cubicles
- Swimming pools
- Thermal baths
- Saunas
- Turkish baths

Especially suited for food environments:

- Dairies
- Oil mills
- Breweries and wineries
- Meat preparation counters
- Food preparation tables in restaurants and pastry shops



Starlike® Finishes

The Galaxy, Spotlight, Gold and Night Vision additives, if mixed as a third component with Starlike®, allow you to obtain grouting with unique and exclusive effects. These additives are available separately, in packages pre-dosed for the 5 and 2.5 kg Starlike® buckets.

Galaxy: can be added to any colour of the Starlike® range to obtain a “metallic” effect.

Spotlight: can be added to any colour of the Starlike® range to obtain a silver glitter effect.

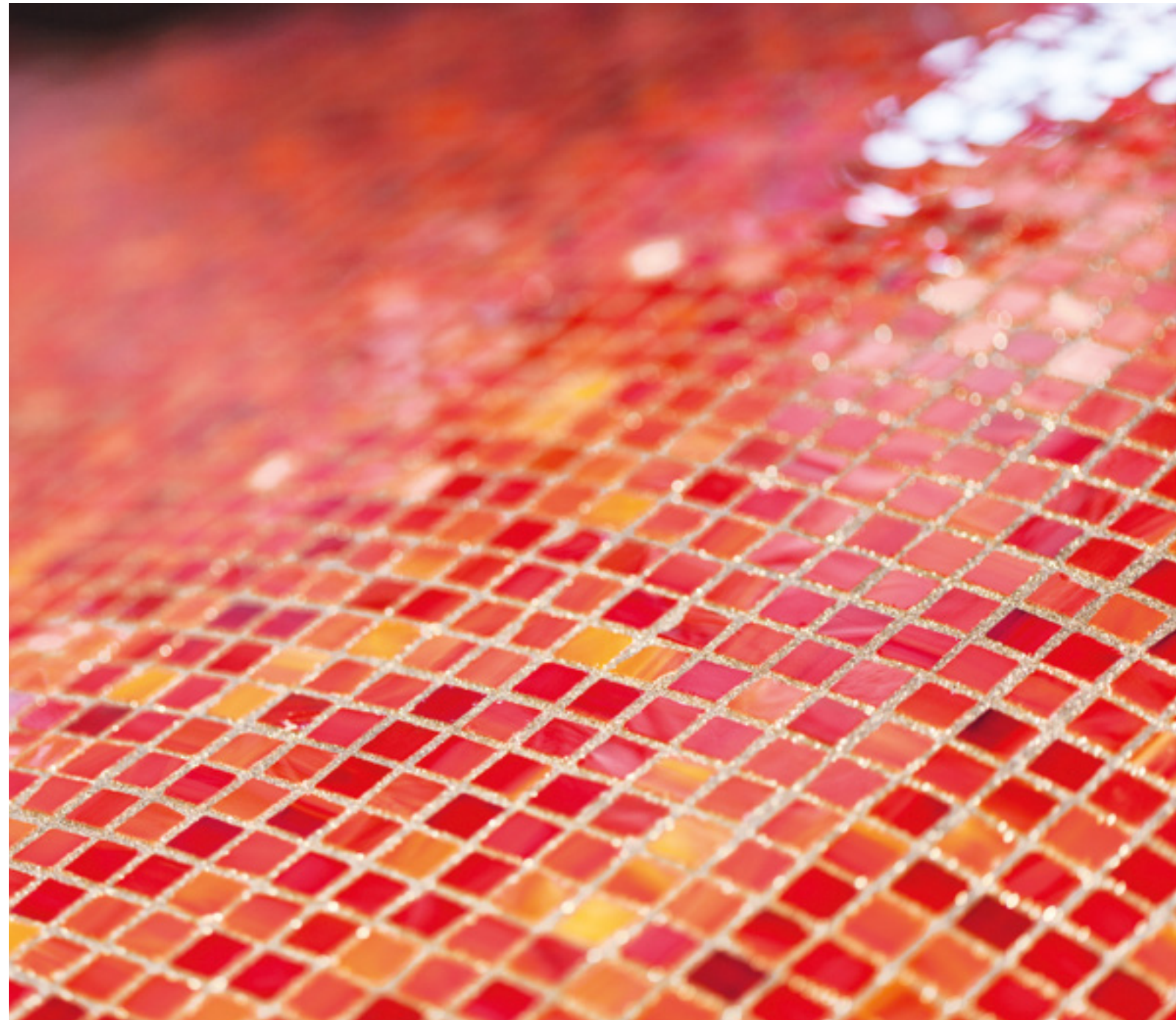
Gold: can be added to any colour of the Starlike® range to obtain a gold glitter effect.

Night Vision: can be added to the colours Silver, Travertino, Sabbia, Tortora, Turchese, Artico blu, Zaffiro, Corallo, Lilla, Ciclamino, Lime. This is a “photo-luminescent” additive which, after exposure to sunlight or artificial light, emits a blue colouring for some hours in the dark.

Metallic Collection: The Platinum, Shining Gold, Bronze, Copper and Rusty additives, mixed as a third component together with Starlike® colour Neutro C.340, allow you to obtain grouting with metallic effects.

They are available separately in packs pre-dosed for 5 and 2.5 kg of Starlike® Neutro C.340.

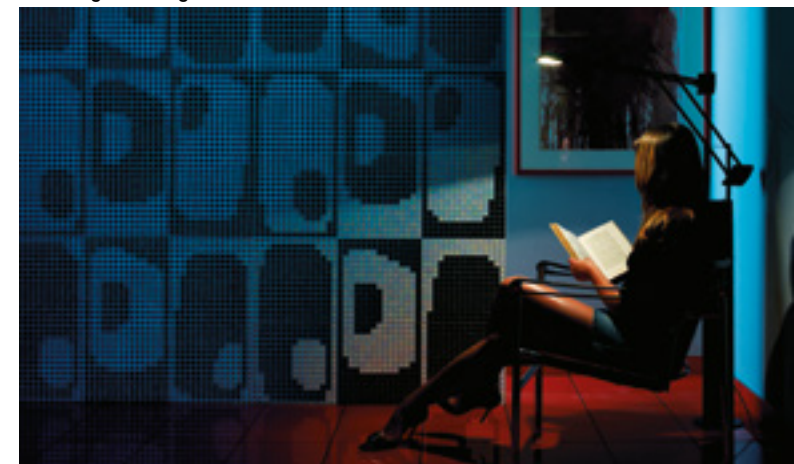
Starlike® Anrtracite with Gold finish



Starlike® Arancio with Spotlight finish



Grouting with Night Vision finish





Starlike® Crystal

Two-component acid resistant translucent epoxy mortar for the grouting of transparent and decorative glass mosaics with joints up to 2 mm width



Technical features
Colour: Crystal C.350
Recommended trowel for laying with adhesive: small notched trowel (article 112/D ^^^ 2 mm)
Consumption:
1kg/m² for mosaics 20x20 mm thickness 3 mm (joint = 2 mm)
2kg/m² for mosaics 10x10 mm thickness 3 mm (joint = 2 mm)
Waiting time before grouting: 24 hours
Mixture life: approx. 1 hour at T=+23°C
Application temperatures: recommended between +18°C to +23°C
Walkable after: 24 hours at T=+23°C
Fully usable after: 5 days at T=+23°C
Storage time: 24 months inside the original packaging, in a dry place
Packaging: 2.5 - 5 kg buckets



The solution for grouting transparent and artistic glass mosaics

- Grout based on aggregate made from glass beads, which allows the product to absorb the colour of the transparent glass tiles and then change depending on that colour.
- Designed for grouting transparent and artistic glass mosaics.
- The translucent colour of the joints allows them to absorb the colour of the glass mosaics.
- Specific product for grouting artistic mosaics because, thanks to being semi-transparent, the shades of the composition do not change: they assume a neutral tone that does not interfere with the image.



Starlike® ColorCrystal

Two-component acid resistant translucent epoxy mortar for the grouting of all types of glass mosaics with joints of up to 2 mm of width.



Technical features
Colour: Rosso Pompei C.351 / Verde Capri C.352
Azzurro Taormina C.353 / Beige Havana C.354 / Rosa Kyoto C.355
Recommended trowel for laying with adhesive: small notched trowel (article 112/D ^^^ 2 mm)
Consumption:
1kg/m² for mosaics 20x20 mm thickness 3 mm (joint = 2 mm)
2kg/m² for mosaics 10x10 mm thickness 3 mm (joint = 2 mm)
Waiting time before grouting: 24 hours
Mixture life: approx. 1 hour at T=+23°C
Application temperatures: recommended between +18°C to +23°C
Walkable after: 24 hours at T=+23°C
Fully usable after: 5 days at T=+23°C
Storage time: 24 months inside the original packaging, in a dry place
Packaging: 2.5 kg buckets

While Starlike® Crystal is used exclusively for grouting transparent and artistic glass mosaics, with Starlike® ColorCrystal it is possible, after identifying the most suitable colour combination, to achieve “tone on tone” grouting even in the case of non-transparent mosaics, further enhancing the mosaic itself.
The colour range of Starlike® ColorCrystal was designed in order to be adaptable to a wide range of mosaics.

Starlike® ColorCrystal
Verde Capri



Starlike® Crystal



Starlike® ColorCrystal Beige Havana





Starlike® Defender

Two-component acid-acid epoxy mortar, anti-bacterial and anti-mould. Suitable for the glueing and grouting of ceramic tiles and mosaics in environments with high hygiene requirements. Particularly suitable in combination with antibacterial ceramic tiles. 99.9% bacterial reduction.



Technical features

Colours: Bianco assoluto C.470 / Titanio C.310 / Silver C. 220 Grigio C.280 / Antracite C. 240 / Travertino C.290 / Sabbia C.250
Mixture life: approximately 1 hr at T = +23 °C
Admitted application temperature: from +12°C to +30°C
Recommended application temperature: from +18°C to +23°C
Walkable after: 24 hours at T=+23°C
Fully usable after: 5 days at T=+23°C
Consumption: refer to table
Consumption with adhesive: 1.6 kg/m² (trowel notching 4 mm)
Storage time: 24 months inside the original packaging, in a dry place
Packaging: 5 kg bucket

Starlike® Defender: the first antibacterial epoxy grout

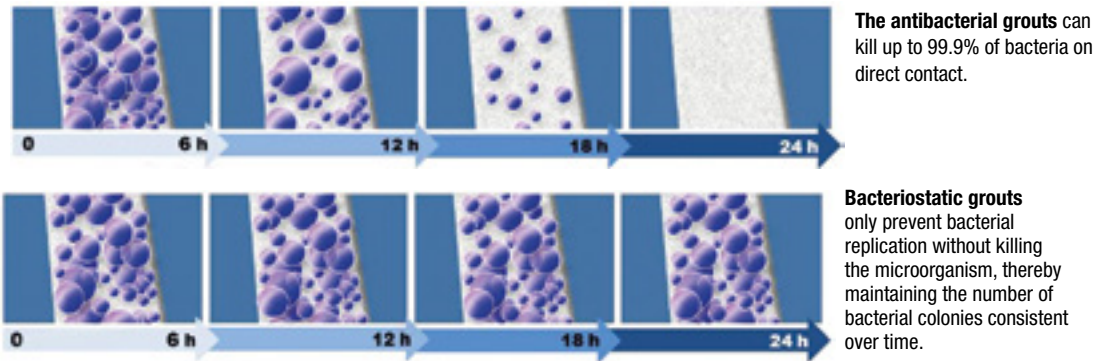
In an antibacterial flooring-wall system, it is necessary for both the tile and the joints to be antibacterial. Litokol, in collaboration with the Department of Biomedical Sciences, Microbiology section, of the University of Modena and Reggio Emilia, has created Starlike® Defender, the first sealant which kills up to 99.9% of the bacteria represented by the

main strains of Staphylococcus aureus and Eschirichia coli.
Test results
The sample showed clear antibacterial qualities, killing up to 99.9% of bacteria. This characterises the tested product as being perfectly compatible with the functional needs of environments with strict hygiene requirements

How the antibacterial principle works

Cleaning a surface with a common disinfectant instantly eliminates microbes, but any type of contact is enough to contaminate it again. Starlike® Defender, instead, guarantees continuous protection against bacteria due to the active

antibacterial ingredient included inside the grouting which works by direct contact, eliminating up to 99.9% of the bacterial colonies present. The antibacterial principle is therefore active both with and without light.



Starlike® Defender: Suitable for contact with foodstuffs

With Starlike® Defender, the fields of application extend to health care facilities, laboratories, nurseries, schools, locker rooms, gyms, public pools, canteens, food and agriculture industries and warehouses, spas. In residential buildings, the antibacterial characteristics are a guarantee of greater hygiene, increasing living comfort safety. The tests of resistance to fungal growth in accordance with BS 5980.1980 prove that Starlike® Defender drastically reduces the growth of mould. Starlike® Defender is suitable for contact with foodstuffs 01-02.03-04-05-06-07-08 (reference numbers for the name of the foodstuffs as per the Decree of the Ministry of Health 26.04.1993, No. 2, Annex II) under conditions of prolonged contact (at temperatures between +5 ° to +40 °).



Epoxystuk X90

Two-component acid-resistant epoxy mortar for the installation and grouting of ceramic tiles with joints of 3 to 10 mm width.



Technical features

Colours: C.00 Bianco / C.30 Grigio Perla / C.15 Grigio Ferro / C.60 Bahama Beige
Mixture life: approx. 1 hour at T=+23°C
Walkable after: 24 hours at T=+23°C
Fully usable after: 5 days at T=+23°C
Storage time: 24 months inside the original packaging, in a dry place
Packaging: 5 - 10 kg bucket

Litonet / Litonet Gel

Alkaline-based liquid detergents to remove streak residues of epoxy mortar from all types of ceramic tiles, mosaics and natural stones.

Technical features

Appearance: Litonet transparent liquid - Litonet Gel transparent dense
Inflammable: no
pH: 12 ± 0.5
Application temperatures allowed: from +5°C to +35°C.
Treatment period of the surfaces: approx. 10-15 minutes
Consumption: 10 - 15 m²/l
Storage time: 24 months in the original packaging away from sources of heat and direct exposure to light; protect from frost.
Packaging: Litonet 1 l bottles - 5 l canisters
Litonet Gel spray bottles 0.750 l

Litonet Pro

High density alkaline-based liquid cleaner for the removal of epoxy mortar streaks and stains from all types of ceramic tiles and mosaics.

Technical features

Appearance: Gel Liquid
Inflammable: no
pH: 12 ± 0.5
Application temperatures allowed: from +5°C to +35°C.
Treatment period of the surfaces: approx. 15-30 minutes
Consumption: approx. 2-3 m²/ 0.5 l
Storage time: 24 months in the original packaging away from sources of heat and direct exposure to light. Protect from frost.
Packaging: 0.500 l bottles

Litostrip

Cleaning gel for the removal of epoxy mortar residues. Litostrip is a product designed for the total removal of hardened epoxy resin Starlike® or Epoxystuk X90-based grout in joints or streaks left on ceramic surfaces due to incorrect or insufficient cleaning.

Technical features

Appearance: Gel
Colour: transparent
Flammable: yes
Waiting time for removal: streaks 10 - 20 minutes hardened grout 1 - 8 hours
Application temperatures allowed: from +5°C to +35°C.
Consumption: on average approx. 0.1 - 0.3 l/m²
Storage time: 24 months inside the original packaging in a cool dry place.
Packaging: 0.750 l Metal bottle





Starlike® Decor

Epoxy decorative finish to be mixed to Starlike®. The additive Decor, when added to the Starlike® grout, creates a mortar that is easily applied as a wall finish for creating low-thickness decorative finishes on interior walls.

It allows to cover the walls with the same material and the same colour of the grout; it is therefore combinations between the coverings where Starlike® has been applied and the surrounding walls.

Packaging: 125 gr bucket for pre-measured 2.5 kg bucket of Starlike®.



Decor Primer Fondo

White 2-component epoxy primer, solvent-free, suitable for levelling on absorbent and non-absorbent substrates before the application of Starlike® as a wall finish.

Indoor use.



Technical features

Appearance:

component A white paste
component B thick paste

Colour: white

Application: smooth steel spatula

Application temperatures allowed: from +5°C to +35°C.

Mixture life: approx. 45 minutes at T=+23°C

Hardening time: approx. 24 hours at T=+23°C

Consumption: approximately 1 kg/m² per mm of thickness

Storage time:

24 months inside the original closed packaging in a cool dry place.

Packaging: total unit 5 kg

component A 2.5 kg bucket

component B 2.5 kg bucket

Litolux

Highly resistant polyurethane finishing wax.

Litolux is a ready-to-use polyurethane based resin-wax emulsion. Its viscosity allows it to be applied even on vertical surfaces.

Protects surfaces from pencil marks, dust, dirt and stains of various kinds.



Litolux Extra

Solvent-based polyurethane finishing wax, highly resistant, glossy.

Litolux Extra is made from a solvent-based hygrosetting polyurethane system with strong resistance to abrasion, scratches and/or high chemical resistance.

Litolux technical features

Colour: White

Application temperatures allowed: from +10°C to +30°C.

Waiting time between first and second coat: approx. 4 hours

Walkable after: approx. 6 hours

Consumption: 15 - 10 m²/l

Storage time: 24 months inside the original closed packaging in a cool dry place. Protect from frost.

Packaging: 1 l bottle

Litolux Extra technical features

Colour: transparent

Minimum temperature for application: +5°C

Time for initial hardening (+20°C): 3 - 4 hours

Time for complete hardening (+20°C): 7 days

Consumption: 4 - 7 m²/kg

Storage time: 6 months inside the original packaging, in a dry place

Packaging: 1 kg bottle

Starlike® StenDecor

Stencils specifically designed for decorating surfaces already covered with Starlike® as a wall finish. The designs are instead implemented using Starlike® grout version.

With StenDecor stencils, you get relief and textured designs, which are inspired by the stucco technique used in the typically Italian interior decorating tradition.

The StenDecor sheets are made with two different special plastic materials, resilient and resistant, water-washable and reusable many times, always perfectly flat.



Collections: StenDecor is available in six collections, each consisting of a border (size 42x15 cm) with three individual designs (21x15 cm) 1 mm thickness and three individual designs (21x15 cm) 0.20 mm thickness.

The subjects are: Glasses, Pots and Fruit for the kitchen area, Shells and Leaves for the bathroom or living area; Hangers for the bedroom.

The Animal collection for children's bedrooms, on the other hand, consists of 4 individual designs in two sizes (21x15 cm and 29.7x21 cm) only in 1 mm thickness.

Packaging: cardboard bag (each bag contains one collection)





Starlike® Monomix

Stain-resistant, ready-to-use single component water-based polyurethane grout for compact and flexible joints featuring durable uniform colours.

Free from hazard classifications.



Technical features

Colours: Bianco Assoluto C.470 / Bianco Ghiaccio C.270 / Titanio C.310 Silver C.220 / Ardesia C.480 / Antracite C.240 / Grigio C.280 Moka C.420 / Pietra d'Assisi C.300 / Sabbia C.250 / Tortora C.490 Travertino C.290

Application temperatures allowed: from +10°C to +30°C.

Walkable after: 24 hours

Fully usable after: 7 days

Storage time: 24 months in unopened original packaging, at temperatures between +5°C and +35°C. Protect from frost.

Packaging: 1 - 2.5 Kg plastic bucket



Monomix Cleaner Gel

Biodegradable detergent for removing residues of grouting carried out with the ready-to-use single component water-based polyurethane grout, Starlike® Monomix

Technical features

Appearance: Transparent colourless gel

pH (5% in water): 6.5 - 7.5

Application temperatures allowed: from +5°C to +30°C.

Waiting time for cleaning: At least 24 hours after grouting with Starlike® Monomix

Maximum time of contact on grouting: not more than 5-7 minutes

Consumption: 10 m² / per package

Storage time: 24 months inside the original unopened packaging in a cool dry place. Protect from frost.

Packaging: 0.750 l spray bottles

Consumption table (kg/m²)

Tile size (mm)	Joint width (mm)				
	2	3	4	5	6
10x10x4	2,50	-	-	-	-
15x15x4	1,70	-	-	-	-
20x20x4	1,25	-	-	-	-
50x50x4	0,50	-	-	-	-
100x100x6	0,40	0,60	0,75	0,95	1,15
100x100x10	0,65	0,95	1,25	1,60	1,90
200x200x8	0,30	0,40	0,50	0,63	0,75
120x240x12	-	-	-	1,20	-
250x250x12	-	-	-	0,75	-
250x250x20	-	-	-	1,30	-
300x300x10	0,22	0,32	0,42	0,53	0,65
300x600x4,5	0,10	0,12	0,15	0,20	0,25
300x600x10	0,18	0,25	0,30	0,40	0,50
330x330x10	0,20	0,30	0,40	0,50	0,60
400x400x10	0,16	0,25	0,32	0,40	0,50
450x450x12	0,17	0,25	0,33	0,41	0,50
500x500x12	0,15	0,22	0,30	0,37	0,45
600x600x3	0,03	0,05	0,06	0,08	0,10
600x600x4,5	0,05	0,07	0,09	0,12	0,14
600x600x12	0,12	0,19	0,25	0,31	0,37
600x1200x3	0,02	0,03	0,05	0,06	0,07
1000x3000x3	0,01	0,02	0,025	0,03	0,04



Ready-to-use.

It does not require any preparation and prevents the release of dust into the environment (as some cement products do).

Reusable .

Once the grouting task is completed, any left-over material, if closed in the original packaging and stored at temperatures between +5°C to +35°C, can be reused even after a few months, thereby avoiding unnecessary waste.



Waterproof.

Special water-repellent additives integrated into the product greatly reduce the surface absorption of the grouting making it waterproof with drip effect.

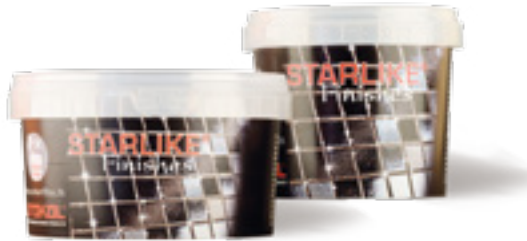


Stain resistant.

Because of the low surface absorption, Starlike® Monomix has a good resistance to oil, wine, vinegar stains etc. It also features good resistance to various aggressive chemical agents.



Synthetic foam sponge for Starlike® Monomix that comes inside the bucket



Like for the Starlike® epoxy mortar, it is possible to add the Spotlight and Gold additives into the Starlike® Monomix mixture. These additives are available separately, in packages pre-dosed for the 1 and 2,5 kg Starlike® Monomix buckets.



Litochrom 0-2
High performance cementitious grout for the grouting of joints up to 2mm wide between ceramic tiles.



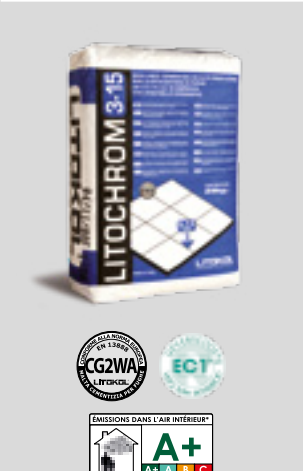
Technical features
Colours: Bianco C.00 / Grigio Perla C.30
Mixture life: approx. 2 hours
Application temperatures allowed: from +5°C to +35°C.
Waiting time for cleaning: between 5 - 20 minutes depending on the absorption and temperature
Walkable after: 24 hours
Fully usable after: 7 days
Consumption: see table on page 78
Storage time: 24 months inside the original packaging, in a dry place
Packaging: 5 kg plastic bags (boxes of 5 pieces)
900 kg standard pallet



Litochrom 1-6
High performance cementitious grout for the grouting of joints from 1 to 6 mm wide between ceramic tiles.



Technical features
Colours:C.00 Bianco / C.10 Grigio / C.700 Grigio medio / C.690 Off White
C.60 Bahama Beige / C.50 Jasmine / C.80 Caramel / C.90 Terracotta
C.160 Azzurro Cielo / C.200 Wengè / C.170 Crocus / C.140 Rosa
C.20 Grigio Chiaro / C.150 Menta / C.30 Grigio Perla / C.710 Mogano
C.120 Marrone Chiaro / C.40 Antracite / C.130 Sabbia / C.680 Nocciola
Mixture life: approx. 2 hours
Application temperatures allowed: from +5°C to +35°C.
Waiting time for cleaning: between 5 - 20 minutes depending on the absorption and temperature
Walkable after: 24 hours
Fully usable after: 7 days
Consumption: see table on page 78
Storage time: Grey and anthracite colours: 12 months
(Dir.2003/53/EC-D.M. 10.05.04).
Other colours: 24 months inside the original packaging, in a dry place.
Packaging: 5 kg plastic bags (boxes of 5 pieces)
25 kg bag
(C.00 Bianco / C.20 Grigio Chiaro / C.30 Grigio Perla / C.10 Grigio)



Litochrom 3-15
High performance cementitious grout for the grouting of joints from 3 to 15 mm width between ceramic tiles.

Technical features
Colours: C.10 Grigio / C.30 Grigio Perla / C.40 Antracite / C.40 Antracite
C.60 Bahama Beige / C.80 Caramel / C.10 Grigio / C.30 Grigio perla
Mixture life: approx. 2 hours
Application temperatures allowed: from +5°C to +35°C.
Waiting time for cleaning: between 5 - 20 minutes depending on the absorption and temperature
Walkable after: 24 hours
Fully usable after: 7 days
Consumption: see table on page 78
Storage time: Grey and Anthracite colours: 12 months
(Dir.2003/53/EC-D.M. 10.05.04).
Other colours: 24 months inside the original packaging, in a dry place.
Packaging: 5 kg plastic bags (boxes of 5 pieces)
25 kg bag
(C.30 Grigio perla / C.40 Antracite)

Litoclean
Descaling acid detergent to clean cement, adhesive and cementitious sealant residues from ceramic tiled floors and walls. Concentrated powder cleaner based on organic acid. The product enables you to obtain a descaling effect similar to that of strong acids (muriatic acid, hydrochloric acid, sulphuric acid) with the advantage of not releasing toxic or noxious fumes.

Litoclean plus
Liquid acid descaler to clean cement, adhesive and cementitious sealant residues from ceramic floors and walls. Litoclean plus is an acid detergent inhibited in liquid form. The product enables you to obtain a descaling effect similar to that of strong acids (muriatic acid, hydrochloric acid, sulphuric acid) with the advantage of not releasing toxic or noxious fumes. In addition, the product is formulated with the latest surfactants which can dissolve all types of cementitious grout residue.

Revital Joint&Tiles
Solvent-based protective product with toning effect to enhance the tone of ceramic or natural stone surfaces and for joints made with epoxy and cementitious grout.

Litocolor
Coloured treatment for cementitious joints. Litocolor is a ready-to-use, coloured polyurethane varnish, for waterproofing and water-oil repellent treatment of cementitious joints.

Litojoint Superflex
Two-component elastic sealant for ceramic samples. Once hardened, the product is characterised by a high elasticity able to withstand any stresses such as impacts, vibrations, temperature fluctuations, etc. without cracking or manifesting detachments from the sides of the tiles.



Technical features
Appearance: white powder
Application temperatures allowed: from +5°C to +40°C.
Treatment time of surfaces: approx. 5 minutes
Consumption: 1 kg every 6 - 10 m²
Storage time: 24 months inside the original packaging in a cool dry place.
Packaging: 1 - 5 kg buckets

Technical features
Appearance: clear liquid
Application temperatures allowed: from +5°C to +35°C.
Treatment time of surfaces: approx. 5 - 10 minutes
Consumption: 5 - 20 m²/l
Storage time: 24 months inside the original packaging in a cool dry place. Protect from frost
Packaging: 1 l bottles - 5 l canisters

Technical features
Appearance: clear liquid
Flammable: yes
Application temperatures allowed: from +5°C to +35°C.
Treatment period of the surfaces: approx. 5-10 minutes
Consumption: 15 - 20 m²/l
Storage time: 24 months inside the original packaging in a cool and dry place. Away from sources of heat and from direct sunlight.
Packaging: 1 l metallic bottles

Technical features
Appearance: liquid
Colours: all the colours of the cementitious sealant range Litochrom 0-2, 1-6, 3-15 and any other RAL and NCS colour on request.
Application temperatures allowed: from +10°C to +25°C.
Drying time: 6 - 8 hours
Walkable after: 24 hours
Waiting time before fully usable: 5 - 7 days
Consumption: approximately 1l per 50 - 60 m2 of ceramic tiling of 25x25 cm size.
Storage time: 12 months inside the original packaging in a cool and dry place. Protect from frost
Packaging: 1 l cans

Technical features
Colours: Bianco / Grigio Zero / Grigio Chiaro / Grigio Perla / Grigio Antracite / Avorio / Almond / Marrone / Oro / Nero / Mogano / Gera Ambra
Consistency of the mix: Pasty
Application temperatures allowed: approx. 6 / 8 hours
Mixture life: from +5°C to +35°C
Final hardening: 48 hours
Storage time: 24 months inside the original unopened packaging in a cool and dry place.
Packaging: 20 kg box
(2 x 10 kg bags of paste - 1 x 100g bottle of catalyst)





Starlike® Classic Collection*	Bianco Assoluto C.470	Bianco Ghiaccio C.270	Titanio C.310	Silver C.220	Ardesia C.480	Antracite C.240
	Grigio C.280	Moka C.420	Pietra d'Assisi C.300	Sabbia C.250	Tortora C.490	Travertino C.290
Starlike® Glamour Collection*	Turchese C.400	Artic Blu C.390	Zaffiro C.260	Corallo C.230	Lilla C.380	Ciclamino C.370
	Melanzana C.360	Lime C.440	Mela C.410	Limone C.430	Arancio C.460	Rosso Oriente C.450
Starlike® Metallic Collection*						
	Platinum	Shining Gold	Bronze	Copper	Rusty	
Starlike® Crystal*	Crystal C.350					
Starlike® ColorCrystal						
	Rosso Pompei C.351	Verde Capri C.352	Azzurro Taormina C.353	Beige Havana C.354	Rosa Kyoto C.355	
Epoxystuk X90						
	Bianco C.00	Grigio Perla C.30	Grigio Ferro C.15	Bahama Beige C.60		
Litochrom 0-2*						
	C.00 Bianco	C.30 Grigio Perla				
Litochrom 1-6*						
	C.00 Bianco	C.20 Grigio Chiaro	C.30 Grigio Perla	C.700 Grigio Medio	C.10 Grigio	C.40 Antracite
	C.160 Azzurro Cielo	C.170 Crocus	C.140 Rosa	C.150 Menta	C.50 Jasmine	C.60 Bahama Beige
Litochrom 3-15*						
	C.80 Caramel	C.710 Mogano	C.200 Wengé	C.90 Terracotta	C.120 Marrone Chiaro	C.130 Sabbia
	C.680 Nocciola	C.690 Off White				
Litojoint Superflex						
	C.30 Grigio Perla	C.10 Grigio	C.40 Antracite	C.60 Bahama Beige	C.80 Caramel	
Litojoint Superflex						
	Bianco	Grigio Zero	Grigio Chiaro	Grigio Perla	Grigio	Antracite
	Almond	Marrone	Oro	Nero	Mogano	Gera
Litojoint Superflex						
	Avorio	Ambra				

Starlike® Colour System
(*) Colours matched with Genesis profiles and OTTO-Chemie silicones:
the only integrated chromatic system that enhances the installation of any material.



Starlike® – Cosumption as adhesive 1,6 kg/m² (trowel notch size 4 mm)

Starlike® consumption as grout kg/mq							
Joint width (mm)							
Tile size (mm)	1,5	2	3	4	5	7	10
10x10x4	1,86	2,48	-	-	-	-	-
10x10x10	4,65	6,20	-	-	-	-	-
15x15x4	1,24	1,65	-	-	-	-	-
15x15x10	3,10	4,13	-	-	-	-	-
15x30x8	1,86	2,50	-	-	-	-	-
20x20x3	0,70	0,93	1,40	1,86	2,33	3,26	4,65
23x23x8	1,62	2,16	3,23	4,31	5,39	7,55	10,78
25x25x10	1,86	2,48	3,72	4,96	6,20	8,68	12,40
50x50x4	0,37	0,50	0,74	0,89	1,24	1,74	2,48
50x50x10	0,93	1,24	1,86	2,48	3,10	4,35	6,20
100x100x8	0,37	0,50	0,74	0,99	1,24	1,74	2,48
125x240x12	0,34	0,45	0,68	0,91	1,13	1,58	2,26
150x150x6	0,18	0,24	0,36	0,48	0,61	0,85	1,21
150x150x8	0,25	0,33	0,50	0,66	0,83	1,16	1,65
200x200x8	0,19	0,25	0,37	0,50	0,62	0,87	1,24
250x330x8	0,13	0,17	0,26	0,35	0,44	0,61	0,87
300x300x8	0,12	0,17	0,25	0,33	0,41	0,58	0,82
300x600x10	0,12	0,16	0,23	0,31	0,39	0,54	0,78
400x400x10	0,12	0,16	0,23	0,31	0,39	0,54	0,78
450x450x10	0,10	0,14	0,21	0,27	0,34	0,48	0,68
600x600x10	0,08	0,10	0,15	0,20	0,26	0,36	0,51

Starlike® as a wall finish		
Consumption	Primer C	100 - 300 gr/m² depending on the substrate
	Decor Primer Fondo	circa 1 kg/m² each mm thickness
	Starlike® (translucent / cover finish)	0,5-0,7 kg/m² each layer
	Starlike® (spatula finish)	2-3 kg/m² depending on the thickness
	Litolux	15-18 m²/l
	Litolux Extra	4-7 m²/kg

Litochrom 1-6			
Consumption	Tile size (cm)	Joint width (mm)	Consumption (kg/m²)
	1x1x0,4 5x5x0,4	2	2,39 0,48
	10x10x0,6 15x15x0,6	1-2-4	0,18-0,36-0,72 0,12-0,24-0,48
	15x20x0,6 25x25x1,2	2-3-4	0,21-0,31-0,42 0,29-0,43-0,57
	25x33x0,8 33x33x1	3-4-6	0,25-0,34-0,5 0,27-0,36-0,54
	30x45x1 45x45x1,2	4-6	0,33-0,5 0,32-0,48

Litochrom 0-2			
Consumption	Tile size (cm)	Joint width (mm)	Consumption (kg/m²)
	1x1x0,4 5x5x0,4	2	2,4 0,5
	10x10x0,6 15x15x0,6	1-2	0,18-0,36 0,12-0,24
	15x20x0,6 25x25x1,2	2	0,21 0,29

Litochrom 3-15			
Consumption	Tile size (cm)	Joint width (mm)	Consumption (kg/m²)
	10x10x0,6 15x15x0,6	4-6	0,84-1,26 0,56-0,84
	15x20x0,6 25x25x1,2	4-6-8	0,49-0,74-0,98 0,67-1,01-1,35
	25x33x0,8 33x33x1	4-8-10	0,39-0,79-0,99 0,42-0,85-1,06
	30x45x1 45x45x1,2	4-10-12	0,39-0,79-1,17 0,37-0,93-1,12
	50x50x1,2 60x60x1,2	6-12-14	0,5-1,01-1,18 0,42-0,84-0,98



Silicone sealants



The joints in ceramic tiling

In the design stage, it is very important to evaluate carefully the installation of expansion joints when producing ceramic tiling. This is to ensure the durability of the tiled surfaces, the term “durability” meaning the ability of the tiles to maintain their own initial features over time, both technically and aesthetically.

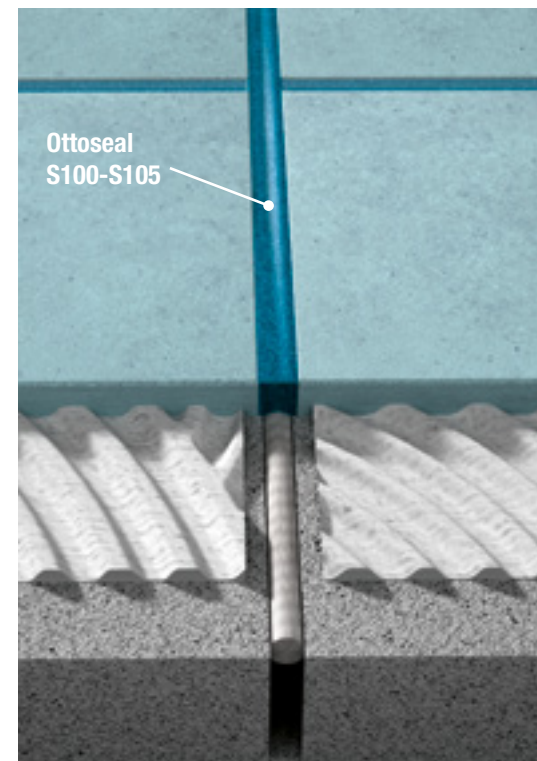
Fraction joints

Fraction joints must be done in the substrate every 25 m² for indoor areas (allocations of 5x5 or 6x4 m) and 9-10 m² per outdoor areas (allocations of 3x3 or 4x2.5 m) using a mechanical shear which must be at least 1/3 of the thickness. These joints must match and be continuous of the joints on the tiles.



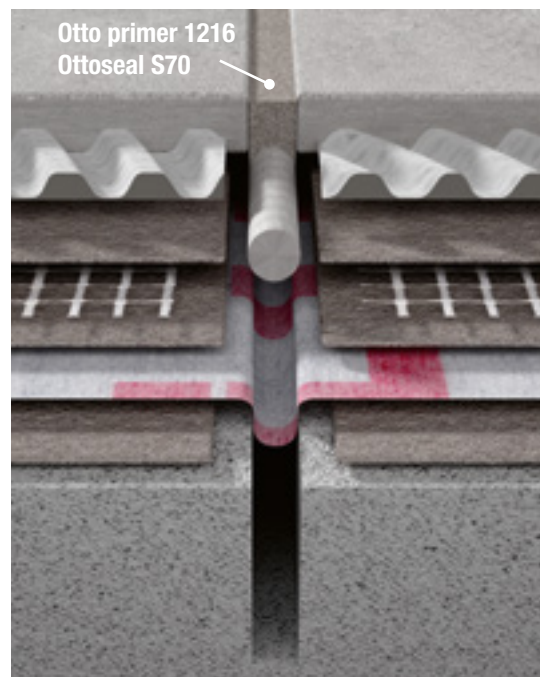
What is a joint

It can be considered a shock absorber for the movements of the tiling, accommodating the expansions, contractions and the stresses that the materials undergo following phenomena of excursion or thermal variation, structural movements, dynamic stresses, vibrations induced by traffic, etc.



Waterproofing of joints on balconies and terraces

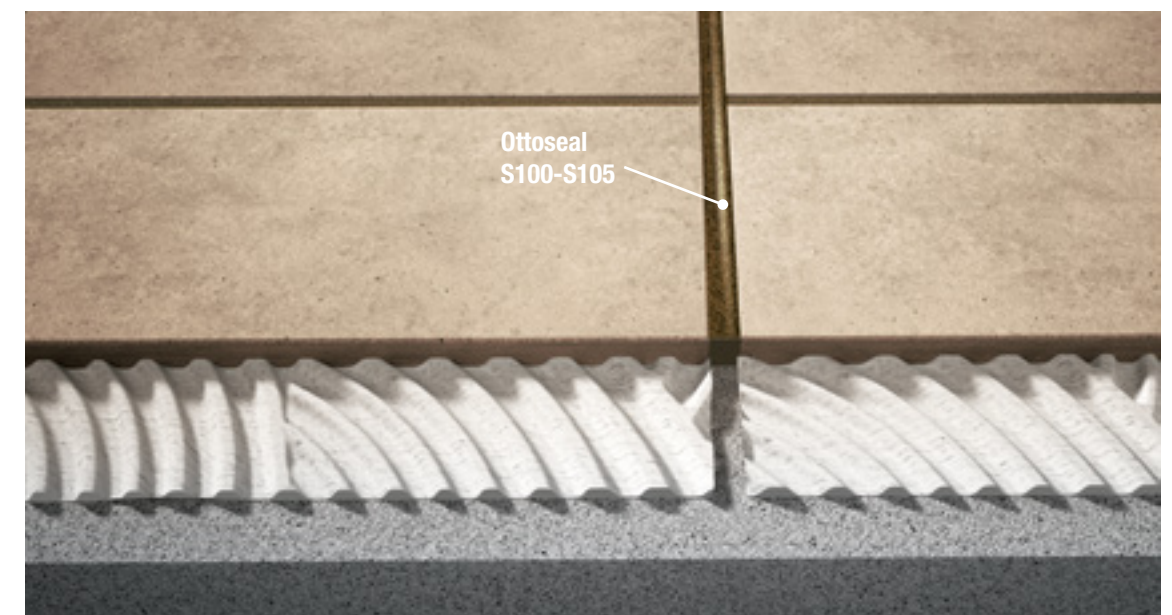
In this case, the sealing tape Litoband Sk Tape must be inserted with “omega upside down” inside the joint and embedded at the ends between the two coats of the waterproofing membranes Elastocem or Coverflex.



Expansion joints

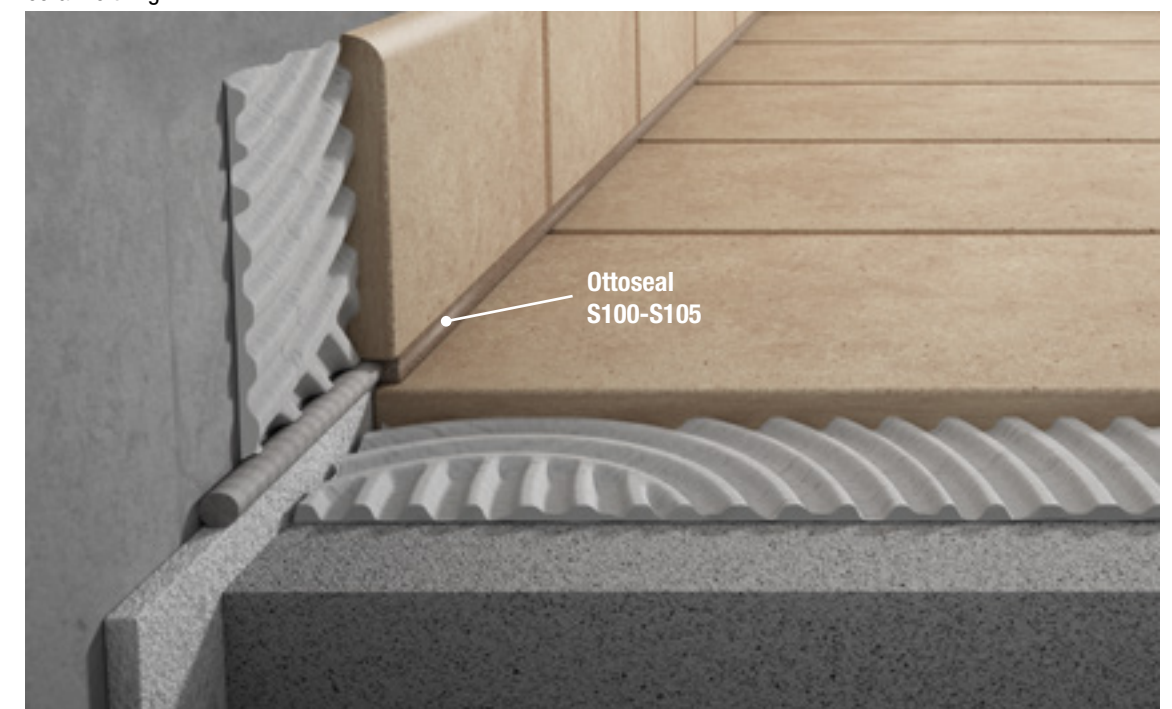


Expansion joints must be prepared so as to subdivide extensive tiling into smaller expanses of the same size described for the fraction joints.



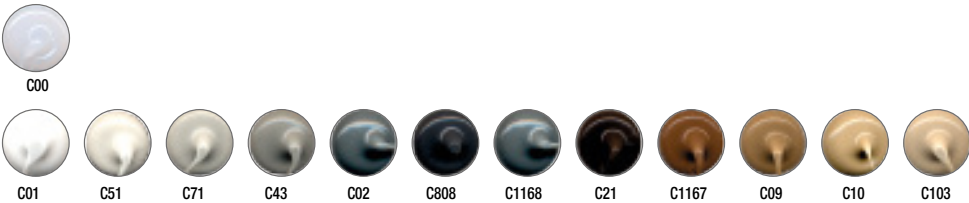
Perimeter joints

Perimeter joints should always be arranged along the perimeter of the tiling, where this borders with the walls or other elevations from the floor such as columns and stairs, and that affect the thickness of the substrate and the ceramic tiling.



Ottoseal S100 - S105

Starlike® Crystal



Starlike®
Classic Collection

Starlike®
Glamour Collection



Starlike®
Metallic Collection



Litochrom 0-2

Litochrom 1-6

Litochrom 3-15



Ottoseal S70



Ottoseal S73



Ottoseal S34



S105	C00	Crystal C.350
Starlike® - Classic Collection		
S105	C01	Bianco Assoluto C.470
S100	C51	Bianco Ghiaccio C.270
S105	C71	Titanio C.310
S105	C43	Silver C.220
S105	C02	Ardesia C.480
S100	C1168	Grigio C.280
S100	C808	Antracite C.240
S100	C103	Travertino C.290
S105	C10	Tortora C.490
S100	C09	Sabbia C.250
S100	C1167	Pietra d'Assisi C.300
S100	C21	Moka C.420
Starlike® - Glamour Collection		
S100	C1463	Turchese C.400
S100	C3218	Artic Blu C.390
S100	C42	Zaffiro C.260

S100	C23	Corallo C.230
S100	C3160	Lilla C.380
S100	C3200	Ciclamino C.370
S100	C59	Melanzana C.360
S100	C11	Mela C.410
S100	C3161	Lime C.440
S100	C19	Limone C.430
S100	C1601	Arancio C.460
S100	C35	Rosso Oriente C.450
Starlike® - Metallic Collection		
S100	C14	Platinum
S100	C19	Shining Gold
S100	C15	Bronze
S105	C05	Copper
S100	C2288	Rusty
Litochrom 0-2 1-6 3-15		
S105	C01	Bianco C.00
S105	C387	Grigio Chiaro C.20

S105	C86	Grigio Perla C.30
S100	C1170	Grigio Medio C.700
S105	C02	Grigio C.10
S105	C67	Antracite C.40
S100	C0334	Azzurro C.160
S100	C92	Crocus C.170
S100	C23	Rosa C.140
S100	C40	Menta C.150
S105	C08	Jasmine C.50
S100	C55	Bahama Beige C.60
S105	C10	Nocciola C.680
S100	C82	Caramel C.80
S100	C1167	Mogano C.710
S100	C07	Wengé C.200
S100	C572	Terracotta C.90
S100	C15	Marrone Chiaro C.120
S100	C22	Sabbia C.130
S100	C69	Off White C.690

Choice of
Otto-Chemie
silicone sealants
and complementary
products

TARGET ENVIRONMENT		Cleaner - Otto Cleaner T	Primer				Sealants				Smoothing agent	
			Otto Primer 1216*	Otto Primer 1105 (for absorbent substrates)	Otto Cleanprimer 1101 (in the case of acrylic bathtubs)	Otto Primer 1218	Ottoseal S100/S105	Ottoseal S70	Ottoseal S34	Ottoseal S73	X-GLM	X-GL
Indoor environments	Flexible expansion joints between ceramic tiles in residential indoor floors and covering.	●	-	-	-	-	●	●	-	-	●	●
	Flexible expansion joints between natural stone in residential indoor floors and covering.	●	●	-	-	-	-	●	-	-	●	-
	Flexible expansion joints between ceramic tiles and natural stone in commercial floors with average traffic.	●	●	-	-	-	-	●	-	-	●	-
	Flexible expansion joints between ceramic tiles in indoor industrial floors with heavy traffic.	●	●	-	-	-	-	-	●	-	●	●
	Flexible expansion joints in concrete substrate in indoor industrial floors with heavy traffic.	●	-	●	-	-	-	-	●	-	-	●
Wet areas	Sealing of ceramic tiles, glass mosaics and fittings in bathrooms and showers.	●	-	-	●	-	●	●	-	-	●	●
	The sealing of natural stone and fittings in bathrooms and showers.	●	●	-	-	-	-	●	-	-	●	-
	Sealing of ceramic tiles and natural stones at tanks, swimming pools and Spa facilities also containing seawater.	●	-	-	-	●	-	●	-	-	●	-
	Sealing of ceramic tiles and glass mosaics in steam baths and hammam baths.	●	●	-	-	-	-	-	-	●	-	●
	Natural stone sealing in steam baths and hammam baths.	●	●	-	-	-	-	-	-	●	●	-
Outdoor environments	Flexible expansion joints between ceramic tiles and natural stones on balconies, terraces and walkways on façades.	●	●	-	-	-	-	●	-	-	●	-
	Flexible expansion joints between ceramic tiles on façades.	●	●	-	-	-	●	●	-	-	●	●
	Flexible expansion joints between natural stones on façades.	●	●	-	-	-	-	●	-	-	●	-

*Although Otto Primer 1216 is suitable for most natural stones, there are particular types of stone materials for which it is necessary to carry out preventive tests in order to verify its absolute compatibility. Consult our technical department for an appropriate choice.



Ottoseal S100-S105

Acetic-cure single component silicone sealants. Excellent resistance to weathering, ageing and UV rays. Contain bacteriostatic and fungicide agents. Excellent workability. Surfaces exceptionally smoothed. Excellent adhesion to ceramic substrates. **Fields of application:** Sealing of expansion joints of ceramics and glass mosaics on floors and walls. Expansion and fillet joints in healthcare environments.

Technical features
Application time: from +5°C to +35°C.
Filming time at +23°C: approx. 10 minutes
Hardening in 24 hours at T=+23°C: 2-3 mm.
Overall distortion allowed: 25%
Heat resistance: from -40°C to +180°C
Density at T=+23°C: approx. 1.0 g/cm³
Preservation: 18 months inside the original packaging in a cool and dry place.
Packaging: 310 ml cartridge

Otto Primer 1216

Single component silicone resin solution. **Fields of application:** Improvement of the OTTO Chemie sealant adhesive properties (see synoptic table).

Technical features
Consumption: approx. 30-50 g/m²
Density at T=+23°C: approx. 0.76 g/cm³
Preservation: 12 months inside the original packaging in a cool and dry place
Packaging: 100 ml flacon



Ottoseal S70

Neutral-cure single component silicone sealants. It absolutely does not stain the edges of the joints on natural stone. High resistance to tearing and carving. Excellent resistance to weathering, ageing and UV rays. Non-corrosive. Contains bacteriostatic and fungicide agents. Also available in “structured” colours with grainy surface similar to stone and opaque colours. **Fields of application:** Sealing of expansion joints between marble and natural stone indoors and outdoors. Sealing of expansion joints on walls and façades. Sealing of submerged joints between natural stone and ceramics in tubs and swimming pools.

Technical features
Application time: from +5°C to +35°C
Filming time at +23°C: approx. 5 minutes
Hardening in 24 hours at T=+23°C: 3 mm.
Overall distortion allowed: 20%
Heat resistance: from -40°C to +180°C
Density at T=+23°C: approx. 1.0 g/cm³
Preservation: 15 months inside the original packaging in a cool and dry place.
Packaging: 310 ml cartridge

Otto Primer 1105

Single component synthetic resin solution. **Fields of application:** Barrier to the alkalinity of surfaces. Improvement of the Otto Chemie silicone sealant adhesive properties on mineral-based absorbent supports such as concrete, cementitious and gypsum-based plaster, fibre cement, cellular concrete.

Technical features
Consumption: approx. 100-300 g/m² depending on absorption
Density at T=+23°C: approx. 0.94 g/m³
Preservation: 12 months inside the original packaging in a cool and dry place
Packaging: 100 ml flacon



Ottoseal S73

Acetic-cure single component silicone sealants. High resistance to water vapour and moisture. High resistance to tearing and carving. Quick hardening. Excellent resistance to weathering, ageing and UV rays. Contains bacteriostatic and fungicide agents. **Fields of application:** Flexible sealing in steam baths, hammam baths, saunas, in combination with different types of materials: ceramics, glass mosaics, natural stone, acrylic fittings, plastic reinforced with fibreglass (GFK).

Technical features
Application time: from +5°C to +35°C
Filming time at +23°C: approx. 10 minutes
Hardening in 24 hours at T=+23°C: 2 mm
Overall distortion allowed: 20%
Heat resistance: from -40°C to +180°C.
Density at T=+23°C: approx. 1.02 g/cm³
Preservation: 12 months inside the original packaging in a cool and dry place.
Packaging: 310 ml cartridge

Otto Primer 1218

Single component synthetic resin solution co-polymerised based with acrylic silicone solvent. **Fields of application:** Improvement of the Otto Chemie silicone sealant adhesive properties on absorbent mineral substrates in permanently wet conditions such as tubs and swimming pools.

Technical features
Consumption: approx. 80-200 g/m² depending on absorption
Density at T=+23°C: approx. 0.95 g/m³
Preservation: 12 months inside the original packaging in a cool and dry place
Packaging: 100 ml flacon



Ottoseal S34

Neutral-cure single component silicone sealants. High mechanical resistance, resistance to tearing and carving. High resistance to chemical agents. Exceptional resistance to temperatures up to +265°C. Excellent resistance to extreme weather conditions, ageing and UV rays. Non-corrosive. For surfaces subject to forklift vehicle traffic. Resistant to washing with machines that use high-pressure water. **Fields of application:** Sealing of floor joints and connection joints subject to major chemical attack (dairy factories, slaughterhouses) and heavy loads (warehouses, workshops, underground car parks).

Technical features
Application time: from +5°C to +35°C
Filming time at +23°C: approx. 10 minutes
Hardening in 24 hours at T=+23°C: 2-3 mm
Overall distortion allowed: 20%
Heat resistance: from -40°C to +265°C
Density at T=+23°C: approx. 1.16 g/cm³
Preservation: 12 months inside the original packaging in a cool and dry place.
Packaging: 310 ml cartridge

Otto Cleanprimer 1101

Solvent-based solution with single component adhesive inducing additives. **Fields of application:** Cleaning and simultaneous improvement of the Otto Chemie silicone sealant adhesive properties on coated and non-coated metallic substrates and plastic materials. Do not apply the product beyond the edges of the joints and beyond adhesive surfaces to avoid dirtying

Technical features
Consumption: approx. 30-50 g/m²
Density at T=+23°C: approx. 0.73 g/m³
Preservation: 12 months inside the original packaging in a cool and dry place
Packaging: 100 ml flacon





X-GL Smoothing agent

Aqueous solution of surface-active substances. The product does not irritate and dry the skin thanks to the dermatological tested active ingredients. It may be diluted with water (2 parts X-GL + 1 part water). It keeps glossy surface of the sealant unaltered.
Fields of application:
To smooth the surface of Otto Chemie silicone sealants (see synoptic table).
Not suitable for natural stone.

Technical features
Preservation: 12 months in the original packaging in a cool dry place at temperatures between +5° C and +35°C
Packaging: 250 ml flacon



X-GLM Smoothing agent

Aqueous solution of surface-active substances. The product does not irritate and dry the skin thanks to the dermatological tested active ingredients. Ideal for delicate marble and natural stone qualities. To use purely, do not dilute. Minimises the risk of stains caused by smoothing agents. It keeps glossy surface of the sealant unaltered.
Fields of application:
To smooth the surface of Otto Chemie silicone sealants (see synoptic table).

Technical features
Preservation: 12 months in the original packaging in a cool dry place at temperatures between +5° C and +35°C.
Packaging: 250 ml flacon



Otto Cleaner T

Mixture of solvents. High cleaning and degreasing efficiency. Dries quickly without leaving adhesive residues. It does not require drying. It does not contain halogenated hydrocarbons.
Fields of application:
Ideal for the preventive cleaning of surfaces on which Otto Chemie silicone sealants will be used for sealing.

Technical features
Preservation: 5 years in the original packaging in a cool and dry place at temperatures between +5° C and +35°C.
Packaging: 100 ml flacon



Otto Fugenfux

Smoothing tools.
Packaging: bag of 3 pcs.



Waterproofing products



Waterproofing system for indoor wet areas.

These systems, defined hereinafter as “kits”, are made up of a combination of different products, each of which contributes to the waterproofing of the system. They are normally used in northern countries such as Sweden, Norway, Finland and Denmark, where the construction methods and materials used require a protective waterproof layer to be applied between the support and the ceramic material cladding. This protective layer prevents the passage of water in the layers below the ceramic cladding, ensuring complete sealing of wet areas such as bathrooms and shower. It must be pointed out that if ceramic tiles can be rightly considered waterproof materials, the

cement mortar for joints are not, thus it is not possible to guarantee impermeability without the presence of a waterproof layer. Consider also that in the case of structural movements of buildings or the expansion of substrates, cracks can occur that inevitably would lead to the infiltration of water in the underlying layers. Litokol waterproofing systems are characterised by excellent elasticity and thus able withstand these movements without cracking, maintaining their waterproofing properties unchanged.



The standard

The waterproofing kits for indoor wet areas are regulated by the European technical directive ETAG 022 European (European Technical Approval Guideline) issued by the European Organisation for Technical Approvals EOTA (European Organisation for Technical Approvals).



The ETAG 022 includes a series of tests with which it attests the ability of a waterproofing system (kit) to withstand the stress caused by the movement of building elements, to the influence of water, to changes in temperature and to the alkalinity of cementitious substrates and adhesives. The Directive applies to three different types of waterproof coating:

Part 1 - Kit for liquid applied waterproof coating.
Part 2 - kit consisting of flexible sheets.
Part 3 - kit consisting of waterproof panels.
These three types of waterproof coating are designed to be applied in indoor wet areas where the temperature variations of the structures are between +5 ° C and +40 ° C: floors or walls with occasional direct exposure to water such as ceramic surfaces positioned at a certain distance from the shower area or the bathtub.
Floors or walls in shower or around baths that are used a few times a day, such as in private homes and in hotels.
Floors or walls with more frequent exposure to water or for longer duration than in the preceding paragraph such as in shower areas of public sport facilities or schools.

Certificates

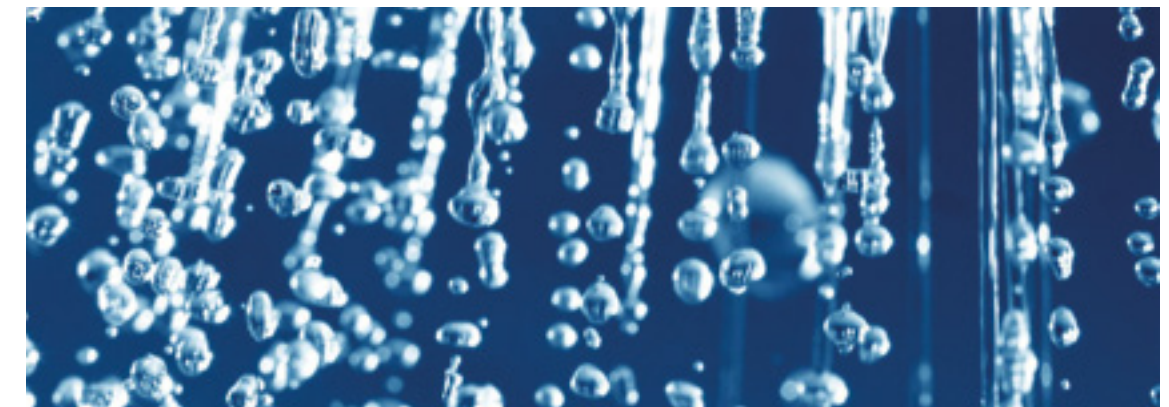
Litokol offers two waterproofing kits compliant with the ETAG 022 European Directive in relation to Part 1 and Part 2 described above. Both kits have been subjected to verification tests defined by the Directive at the German Institute for the control of construction materials MPA of Braunschweig. Subsequently, on the basis of the test reports, the two kits obtained technical approval from the Norwegian Technical Research Institute for Building and Infrastructure SINTEF and the Swedish organisation Bygghermetikradet BKR,



that deals with the promotion and development of knowledge in the construction industry, defining the guidelines for the installation of ceramic materials and laying materials.



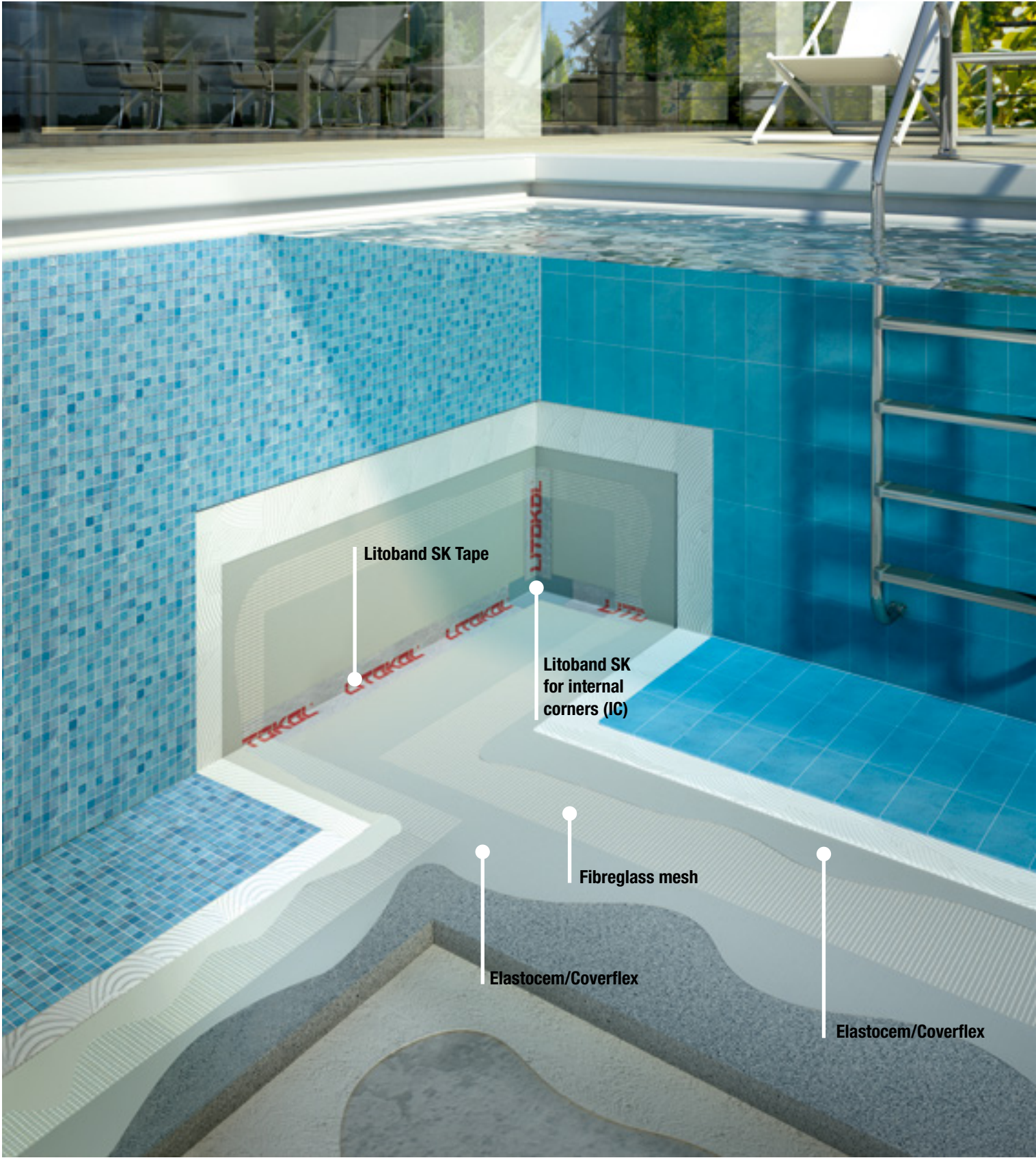
These important recognitions certify the reliability of the waterproofing kits of Litokol SpA according to the strictest standards in the industry and based on the most consolidated experience in the field of waterproofing damp areas. Not only that, but also with regard to the emissions of volatile organic compounds (VOC), Litokol products meet the requirements of the most stringent regulations. In particular, Primer SK and Hidroflex are classified EC1PLUS, that is, “low emission” products, according to the test protocol GEV - EMICODE.



Waterproofing products for pools, hammam baths and spa tubs

Installation in swimming pools with reinforced concrete structures includes a number of preliminary checks and inspections of the structure itself in order to ensure adequate durability. In order to ensure a total sealing of the pool, it will be necessary to apply suitable two-component cement-based waterproofing mortars before laying such

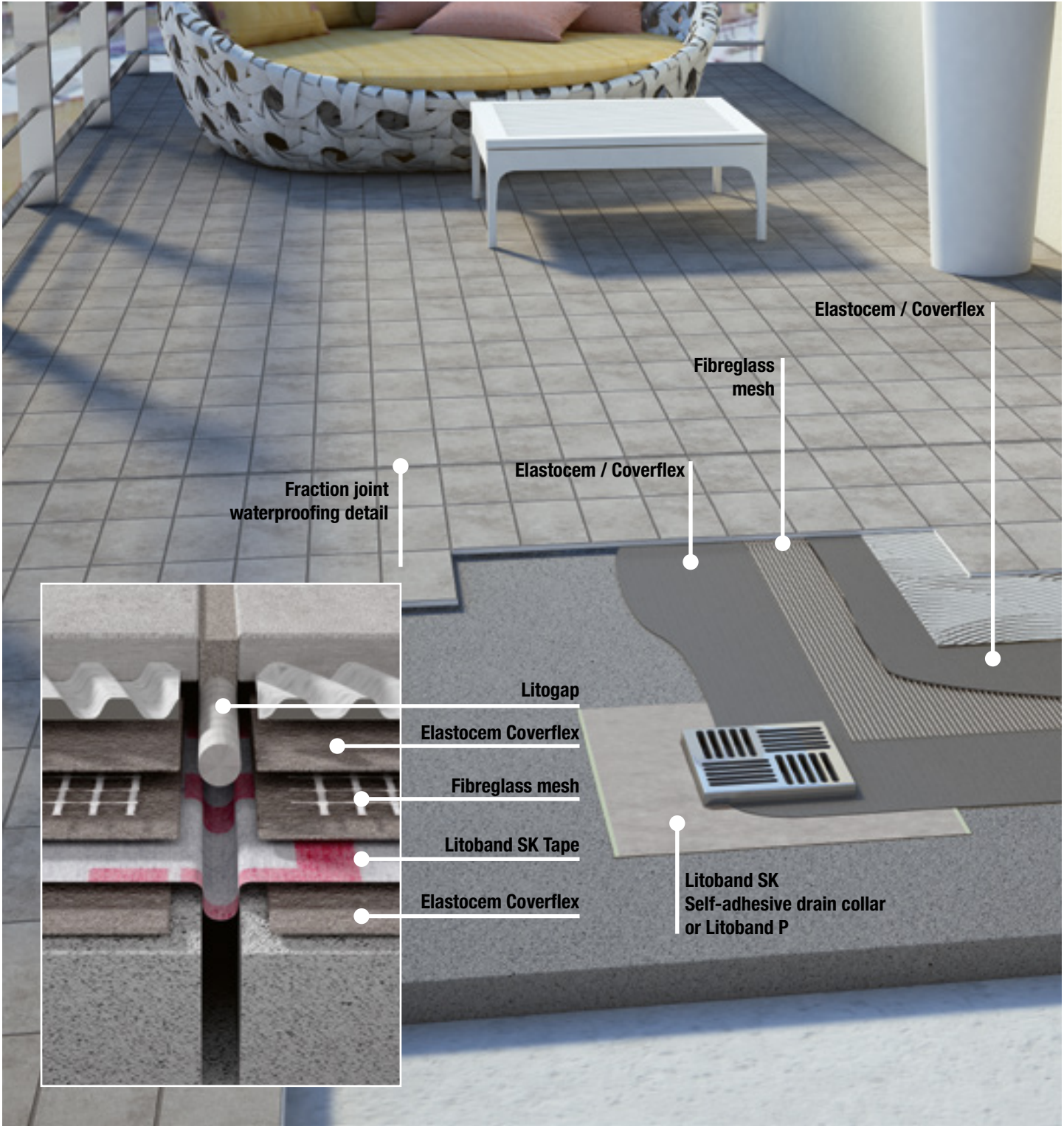
as Elastocem or Coverflex. The waterproof mortar is applied in two coats, interposing a 4 x 4 mm reinforcement net in fibre-glass between the first and the second coat together with appropriate sealants (Litoband SK Tape and Litoband SK internal and external corners) at the corners, joints, drains and spotlights.



Waterproofing products for terraces and balconies

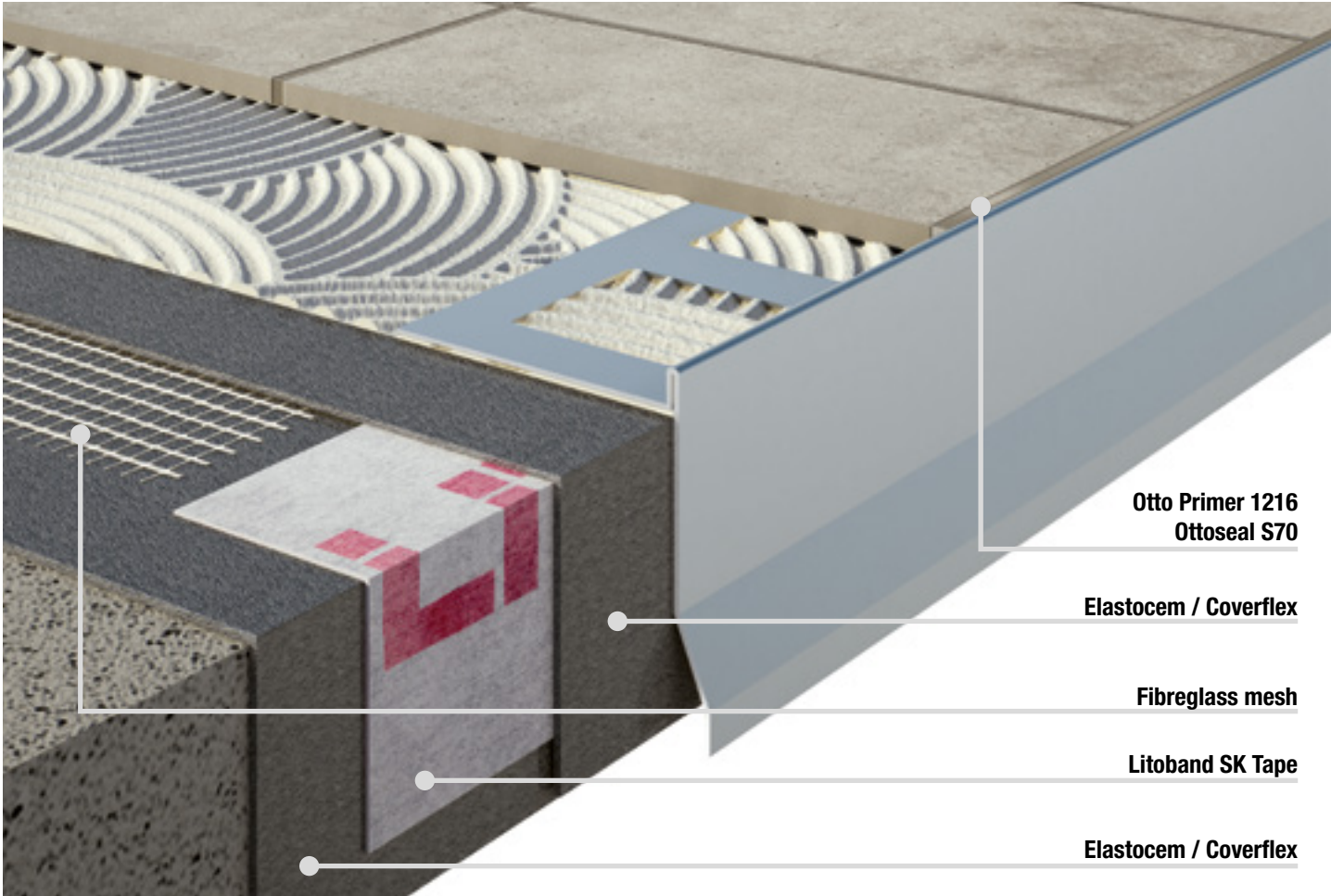
Terraces and balconies correspond to external flooring. These tiles are installed on waterproofed substrates above the screed (with liquid applied product or sheet membranes). The application of the waterproofing layer over the screed and directly under the tiles allows you to preserve the screed from water infiltration and from damage caused by repeated cycles of freezing / thawing. The waterproofing is done with the two-component flexible cementitious mortars Elastocem or Coverflex. The mortar is applied in two coats, interposing a mesh of fibre-reinforced glass between the first and the second and appropriate tapes and sealing elements (Litoband SK Tape and Litoband SK

internal and external corners) at the corners. The fraction joints present in the screed are waterproofed by inserting the sealing tape Litoband SK Tape folded omega side along their entire length, embedding the two ends of the tape between the two coats of mortar. Inside the sealed joint, the compressible bead in expanded polyethylene Litogap will be subsequently placed with a diameter slightly greater than the width of the joint. The waterproofing of the drains is ensured by the inclusion of Litoband SK Self-Adhesive-Drain Collar or Litoband P.



Balconies and terraces: protection of front and draining edges

The terrace front and draining edges of the exterior tiling are exposed to the risk of retaining water on contact with the edge of the tiling, resulting in durability problems associated with the penetration of water into the substrate (screed) of the tiling itself. To prevent this risk, special pieces of ceramic (similar to elements for steps) and other types of gutters are available, the use of which protects the edge of the tiling in an effective and durable way.



Tiling border and ground

In external ceramic tiling on screed applied on the ground (with substrate made from the crawl space) - for example, pavements, driveways, etc. - the penetration of water through the side surfaces of the flooring system involves substantial risks of durability of the system itself, associated with the persistent humidity of the screed. The border interface between flooring substrate / screed and the ground must therefore be waterproofed. In the case of waterproofed substrates, it is appropriate to ensure adequate drainage of any water that has penetrated under the tiling.



Elastocem

Two-component flexible cementitious mortar up to -20 °C, chlorine-resistant, fibre-reinforced, for the waterproofing of balconies, terraces and swimming pools of class CM 02P according to UNI EN 14891

Technical features

Mix ratio: part A (powder) 3 parts + part B (latex) 1 part
Final colour: Dark grey
Duration of mixture: approximately 60 minutes
Application: smooth trowel
Max. thickness applicable: 2 mm in two successive coats
Waiting time between the first and second layer: approx. 3-4 hours at T=+23°C
Waiting time before laying the ceramics: 5 days
Consumption: 1.7 kg/m² per mm of thickness
Storage time: 12 months in original packaging in a dry place at a temperature not less than +5°C
The B component (liquid) is frost sensitive
Packaging: 24 kg sack + 8 kg canister



Coverflex

Two-component flexible cementitious mortar up to -20°C, chlorine-resistant, can also be applied by roller and brush, for the waterproofing of balconies, terraces and swimming pools of class CM 02P according to UNI EN 14891

Technical features

Mix ratio: part A (powder) 2 parts + part B (latex) 1 part
Final colour: Light Grey
Duration of mixture: approximately 60 minutes
Application: smooth trowel, roller, brush
Consistency of the mix: Fluid paste
Maximum thickness applicable: 2 mm in two successive coats
Waiting time between the first and second layer: Approx. 3-4 hours at T=+23°C
Waiting time before laying of ceramics: 5 days
Consumption: 1.6 kg/m² per mm of thickness
Storage: 12 months in original packaging in a dry place at temperatures no lower than +5 °C
The B component (liquid) is frost sensitive
Packaging: 20 kg sack + 10 kg canister



Primer F

Waterproofing primer in water dispersion. Indoor use. Suitable for pre-treatment of absorbent substrates such as: cementitious and gypsum-based plaster, wood panelling, concrete before applying the waterproofing sheath Hidroflex in wet interior areas such as showers, bathrooms and kitchens.

Technical features

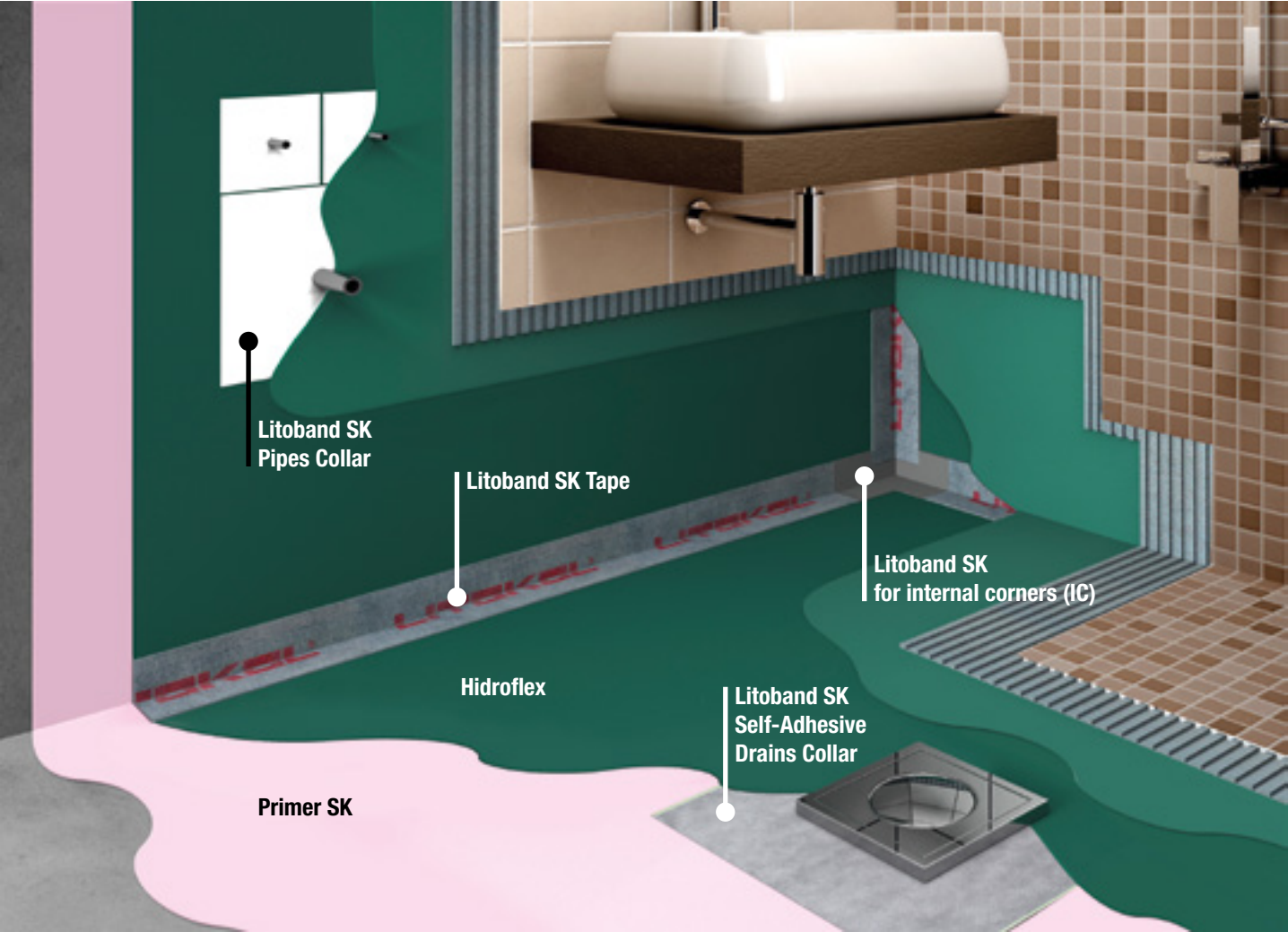
Colour: Yellow
Appearance: Liquid
Application temperatures: from +5°C to +35°C
Application: roller or brush
Solid residue: 49-51%
Drying time: approximately 20 minutes
Viscosity: 90-140 mPa s
Consumption: 300 g/m² in two crossed coats
pH: 8-9,5
Preservation: 24 months in its original packaging. Protect from frost
Packaging: 2 - 5 - 10 kg canister



Litoband SK
Complete waterproofing system for indoor wet areas.
Liquid applied waterproof coating kit.

Complete waterproofing system (sealing tape, corner seals, drains and piping passages), designed for the specific needs of indoor wet areas such as bathrooms, showers, toilets, kitchens, etc.

The SK waterproofing system used in combination with the ready-to-use liquid membrane Hidroflex allows you to create a protective flexible and waterproof layer, which prevents water from infiltrating the underlying layers of the ceramic cladding, ensuring a total sealing of indoor wet areas such as bathroom and shower. The system complies with the standard ETAG 022 Part 1.



Primer SK
Waterproofing primer in aqueous dispersion for indoor wet areas. Product with very low emission of volatile organic compounds (VOC). Primer SK is a vapour barrier primer used to limit water vapour from spreading in damp areas before applying ceramic material. Primer SK is included in the product kit called “Litokol waterproofing system for indoor wet areas”, which complies with the ETAG 022- standard Part 1.

Technical features
Colour: Pink
Application: roller and brush
Application temperatures allowed: from +10°C to +25°C
Drying time (T=+23°C):
1st coat: 30 minutes - 2nd coat: 2 hours
Consumption: 300 g/m2 for two coats
Storage time: 6 months inside the original packaging in a cool and dry place. Protect from frost
Packaging: 5 kg canisters

Hidroflex
Ready-to-use flexible liquid membrane for waterproofing indoor wet areas. Product with very low emission of volatile organic compounds (VOC). Hidroflex is a liquid membrane used for waterproofing substrates in indoor wet areas prior to the application of ceramic material. The liquid membrane Hidroflex is part of two waterproofing kits in compliance with the ETAG 022 Standard Part 1 and part 2. The product is classified DMO1 in accordance with UNI EN 14891

Technical features
Colour: Green
Application: roller or brush
Drying time (T=+23°C):
1st coat: 2 hours 2nd coat 16 hours
Consumption: 1.15 kg/m² per coat
Storage time: 24 months inside the original packaging in a cool and dry place. Protect from frost
Packaging: 5 - 10 - 20 kg buckets



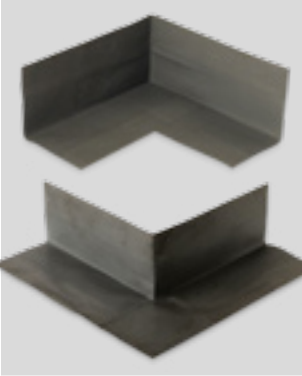
Litoband SK Tape
Sealing tape with a double layer of wovenpoly propylene and an internal waterproof thermoplastic elastomer for expansion joints, corner joints.

Technical features
Colour: Grey
Total height: 120 mm
Total thickness: 0.7 mm
Weight: 43 g/m
Roll length: 10-50 m
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Heat resistance: -5°C / +90°C
Packaging: 1 roll per box



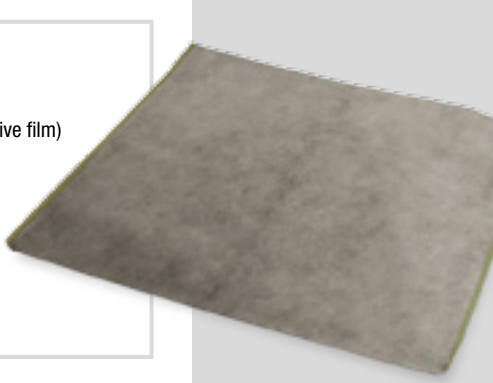
Litoband SK for internal corners (IC) and external corners (EC)
Sealing tape for waterproofing the corners between walls and floors in non-woven fabric coated with water and steam resistant rubber.

Technical features
Colour: Grey
Total height / Butyl height: 120 mm / 70 mm
Total thickness: 0.7 mm
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Heat resistance: -5°C / +90°C
Packaging: 25 pieces per box



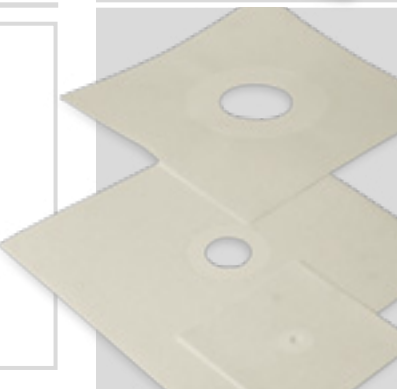
Litoband SK Self-Adhesive Drains Collar
Gasket for self-adhesive butyl drain collar, resistant to ageing, for waterproofing drains of different sizes and materials. Only for applications in the presence of water at low pressure.

Technical features
Colour: Grey
Dimensions: 370 mm x 370 mm
Total thickness: 1.3 mm (without protective adhesive film)
Weight: 217 g
Heat resistance: -5°C / +60°C
Packaging: 25 pieces per box



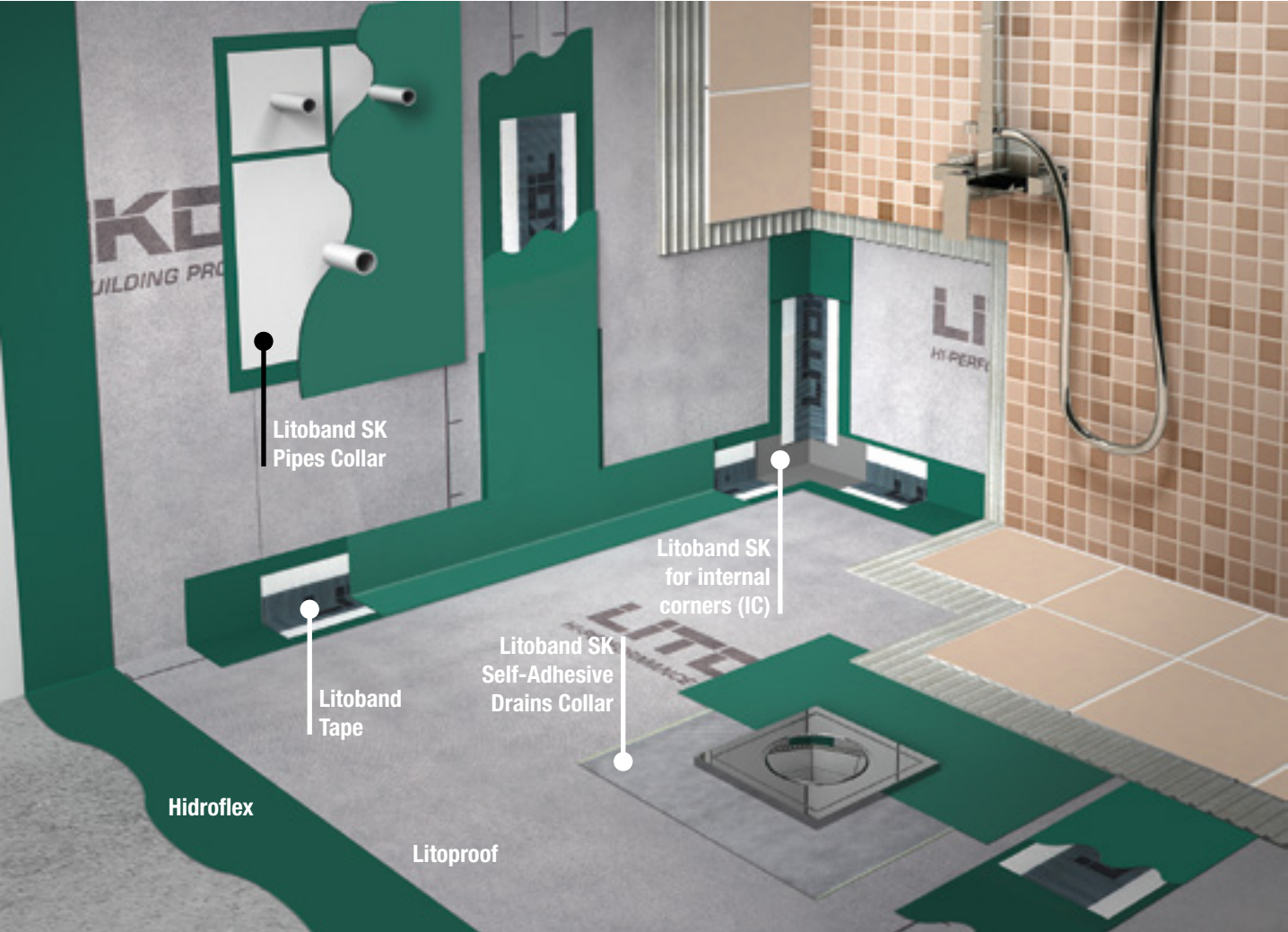
Litoband SK Pipes Collar
Special gaskets for piping made of non-woven fabric with a flexible membrane in the centre, for waterproofing pipes of different diameters. Substrate: two external layers of non-woven polypropylene
Coating: membrane in modified polypropylene

Technical features
Colour: White
Total dimensions:
120x120 mm for piping of 15/20 mm diameter
250x250 mm for piping of 45/60 mm diameter
250x250 mm for piping of 125 mm diameter
Total thickness: 0.60 mm
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Packaging: 25 pieces per box



Litoband SK-2
Complete waterproofing system for indoor wet areas.
Kits consisting of flexible sheets.

Complete waterproofing system (waterproof and insulating membrane, sealing tapes, corner seals, drains and piping passages), designed for the specific needs of indoor wet areas such as bathrooms, showers, toilets, kitchens, etc.
The SK-2 waterproofing system used in combination with the ready-to-use liquid membrane Hidroflex allows you to create a protective flexible and waterproof layer, which prevents water from infiltrating the underlying layers of the ceramic cladding, ensuring a total sealing of indoor wet areas such as bathrooms and shower. The system complies with the ETAG 022 Standard Part 2.



Technical features
Colour: Grey
Total height: 1000 mm
Total thickness: 0.41 mm
Weight: 290 g/m²
Roll length: 10-30 m
Water pressure resistance: >1.5 bar
Heat resistance: -5°C / +90°C
Packaging: 10 and 30 m roll

Waterproofing and insulating membrane for indoor wet areas, consisting of two outer layers of non-woven polypropylene fabric and an inner layer of polyethylene

Hidroflex
Ready-to-use flexible liquid membrane for waterproofing indoor wet areas.
Product with very low emission of volatile organic compounds (VOC). Hidroflex is a liquid membrane used for waterproofing substrates in wet areas prior to the application of ceramic material. The Hidroflex liquid membrane is part of two waterproofing kits in compliance with the ETAG 022 Standard Part 1 and part 2.
The product is classified DM01 in accordance with UNI EN 14891

Technical features
Colour: Green
Application: roller or brush
Drying time (T=+23°C):
1st coat: 2 hours **2nd coat:** 16 hours
Consumption: 1.15 kg/m² per coat
Storage time: 24 months inside the original packaging in a cool and dry place. Protect from frost
Packaging: 5 - 10 - 20 kg buckets



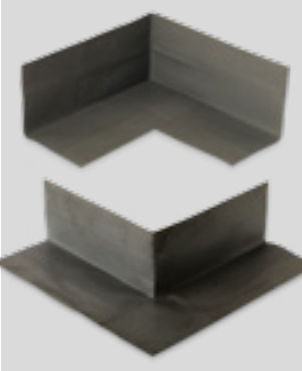
Litoband Tape
Waterproofing tape in polyester fabric with butyl inner layer for waterproofing corner joints and connectors.
Consists of a sub-layer of non-woven polyester and an age-resistant thermoplastic elastomer lining.

Technical features
Colour: Grey
Total height / Butyl height: 120 mm / 70 mm
Total thickness: 0.8 mm
Weight: 30 g/m
Roll length: 10-50 m
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Heat resistance: -5°C / +90°C
Packaging: 1 roll per box



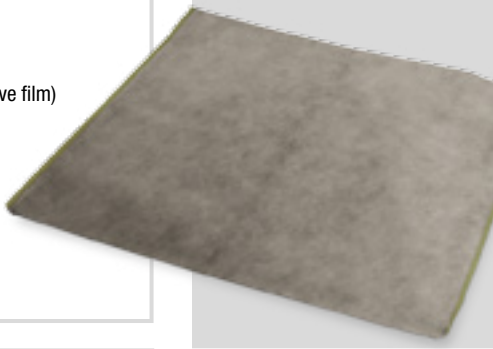
Litoband SK for Internal Corners (IC) and External Corners (EC)
Sealing tape for waterproofing the corners between walls and floors in non-woven fabric coated with water and steam resistant rubber.

Technical features
Colour: Grey
Total height / Butyl height: 120 mm / 70 mm
Total thickness: 0.7 mm
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Heat resistance: -5°C / +90°C
Packaging: 25 pieces per box



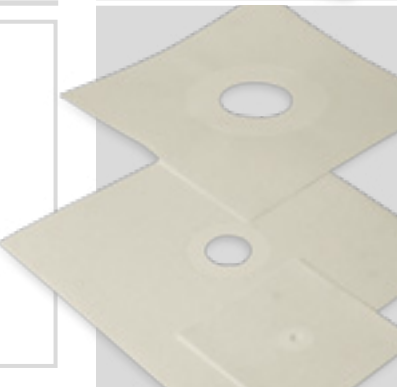
Litoband SK Self-Adhesive Drains Collar
Gasket for self-adhesive butyl drain collar, resistant to ageing, for waterproofing drains of different sizes and materials. Only for applications in the presence of water at low pressure.

Technical features
Colour: Grey
Dimensions: 370 mm x 370 mm
Total thickness: 1.3 mm (without protective adhesive film)
Weight: 217 g
Heat resistance: -5°C / +60°C
Packaging: 25 pieces per box



Litoband SK Pipes Collar
Special gaskets for piping made of non-woven fabric with a flexible membrane in the centre, for waterproofing pipes of different diameters. Substrate: two external layers of non-woven polypropylene
Coating: membrane in modified polypropylene

Technical features
Colour: White
Total dimensions:
120x120 mm for piping of 15/20 mm diameter
250x250 mm for piping of 45/60 mm diameter
250x250 mm for piping of 125 mm diameter
Total thickness: 0.60 mm
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Packaging: 25 pieces per box

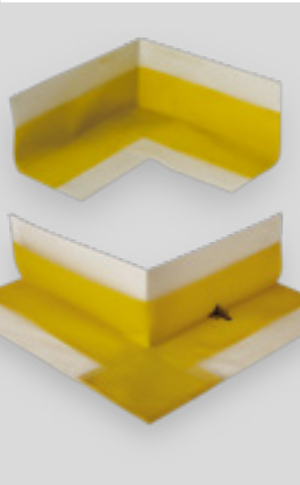




Litoband Basic

Waterproofing tape in polyester fabric with butyl inner layer for expansion joints, corner joints and connectors.

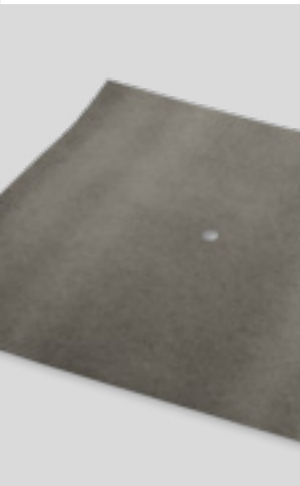
Technical features
Colour: White/Yellow
Total height / Butyl height: 120 mm / 70 mm
Total thickness: 0.8 mm
Weight: 30 g/m
Roll length: 10-50 m
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Heat resistance: -5°C / +90°C
Packaging: 1 roll per box



Litoband Basic for internal corners (IC) and external corners (EC)

Sealing tape for waterproofing the corners between walls and floors made of polyester fabric with inner layer in butyl.

Technical features
Colour: White/Yellow
Total height / Butyl height: 120 mm / 70 mm
Total thickness: 0.7 mm
Water pressure resistance: >1.5 bar (DIN EN 1928-Version B)
Heat resistance: -5°C / +90°C
Packaging: 25 pieces per box



Litoband P
Drain gasket

Technical features
Colour: Grey
Dimensions: 425x425 mm
Packaging: 10 pieces per box



Fibreglass mesh

Anti-alkaline fibreglass mesh for reinforcement. The product is suitable as a reinforcement for waterproofing finishes of surfaces using elastic two-component mortars Elastocem or Coverflex. Reinforcement done with fibreglass mesh prevents the formation of cracks as a result of the stresses to which the substrate is subjected and it also allows for the application of a uniform layer of product.

Technical features
Colour: White
Quantity: 50 m² / roll
Height: 1 m
Dimension of links: 4x5 mm
Resistance to alkalis: Excellent
Storage time: unlimited
Packaging: 50 m² / roll

Special products
for the building
industry





Idrokol X20

Synthetic resin-based latex in aqueous dispersion adhesion adjuvant for cementitious mortars. Particularly versatile additive that can be used in numerous applications such as: additive for cementitious mortars like screeds, plaster, levelling layer, in order to improve the adhesion features and mechanical strength. Additive for the production of adhesive slurries suitable for anchoring new screeds made of Portland or Litocem cement on old substrates. Additive for the production of adhesive slurries for construction joints between fresh concrete on old concrete. Adhesive to mix with cementitious adhesives to improve adhesion qualities.

Technical features
Appearance: Liquid
Colour: White
Solid residue: 47-50%
Viscosity: 10-30 mPa s
pH: 10-11.5
Application temperatures: from +5°C to +35°C
Consumption: depends on use
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 2 - 5 - 10 - 20 kg cans



Latexkol

Elasticising synthetic latex for cementitious adhesives. Liquid additive to use in mixtures of Class C1 cementitious adhesives (see K21/K22 sheets) in partial or total substitution of water. The use of the additive gives a high degree of deformability to the adhesive and improves its performance, making it suitable for demanding applications (see synoptic table). Cementkol K21/ Cementkol K22 + 30% water/Latexkol mix 1:1: deformable improved cementitious adhesive C2-S1 Cementkol K21/ Cementkol K22 + 30% Latexkol: highly deformable improved cementitious adhesive C2-S2.

Technical features
Appearance: Liquid
Colour: White
Solid residue: 34-36%
Viscosity: 20-30 mPa s
pH: 7-8
Application temperatures: from +5°C to +35°C
Temperature of use: from -30°C to +90°C
Consumption: depends on use
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 5 - 10 - 20 kg cans



Idrostuk

Liquid additive to use for the mixture of the Litochrom range cementitious sealants in total replacement of water. The use of the additive enhances the final features of the grouting. Specifically the adhesion to the sides of the tiles is increased as well as the abrasion resistance and it reduces water absorption and porosity. Therefore suitable for use on tiled surfaces subjected to high physical and mechanical stresses such as: terraces, balconies, swimming pools, industrial flooring, plasterboard panelling, etc.

Technical features
Appearance: Liquid
Colour: White
Solid residue: 10-12%
Viscosity: 10-30 mPa s
pH: 10-12%
Application temperatures: from +5°C to +35°C
Mixture life: approx. 2 hours
Walkable after: 24 hours
Consumption: see grouts consumptions
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 2 - 5 -10 - 20 kg cans



Litofix

Ready-to-use water dispersion adhesion promoting primer. Indoor use. Adhesion promoter suitable for the treatment of non-absorbent and compact substrates in indoor rooms, prior to the application of levelling products and cementitious adhesives. The product can be applied to both floors and walls. Suitable substrates for treatment are: ceramic tiles, natural stone, PVC, linoleum, smooth concrete, chipboard, parquet de-waxed by sanding, residues of old glues for parquet, carpets, PVC.

Technical features
Appearance: Liquid
Colour: Blue
Application: microfibre roller
Application temperatures: from +5°C to +35°C
Drying time: approx. 4 hours
Consumption: 100-200 g/m² depending on the substrate
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 5 kg bucket

Litolast

Ready-to-use water-repellent impregnator. Used for the water-repellent protective treatment of absorbent mineral building materials of high and medium porosity such as: exposed brick, cast or precast concrete, cementitious plaster even dehumidifying, grout between ceramic tiles done with cementitious sealants in both indoor and outdoor areas such as balconies and terraces. Also suitable for the protective treatment of substrates against the formation of salt efflorescence, mould and algae.

Technical features
Appearance: Liquid
Colour: White
Viscosity: 10-30 mPa s
pH: 6.5 - 7.5
Application temperatures: from +5°C to +35°C
Drying time: approx. 24 hours
Application: roller or brush
Consumption: 0.3/1 kg/m² depending on the substrate absorption
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 5 kg can



Primer X94

Insulating primer in aqueous dispersion for gypsum-based substrates. Suitable for the insulating treatment of gypsum-based surfaces, prior to laying ceramic tiles with cementitious adhesives. Also suitable as anchoring coat prior to the application of gypsum-based plaster, levelling layers, cementitious levelling layers on absorbent substrates such as: expanded cellular cement, concrete, bricks. The film of the dried product gives the following characteristics: it reduces the substrate absorption. It increases the working time of the plaster and avoids the formation of shrinkage cracks. It consolidates the substrate surface. It increases the adhesion of various types of claddings (paints, plaster, wallpapers, tiles etc.)

Technical features
Appearance: Liquid
Colour: Greenish
Solid residue: 19-21%
Viscosity: 10-30 mPa s
pH: 8-9.5
Application temperatures: from +5°C to +35°C
Drying time: approx. 2 hours
Application: roller or brush
Consumption: 100/200 g/m²
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 2 - 5 - 10 - 20 kg cans



Primer C

Consolidating and insulating primer in aqueous dispersion. Indoor use. Used for the consolidation of flaking and powdery surfaces of cementitious screeds, cementitious grout, plaster, etc. Suitable as an insulating primer of gypsum-based substrates, anhydrite, and the like, prior to using cement-based adhesives to lay ceramic tiles. Primer coat for subsequent waterproofing to be carried out with the single-component sheath Hidroflex in the case of slightly porous substrates such as cast or pre-cast concrete.

Technical features
Appearance: Liquid
Colour: White
Solid residue: 9-11%
Viscosity: 10-20 mPa s
pH: 7-8
Application temperatures: from +10°C to +35°C
Drying time: approx. 4 hours
Application: roller or brush
Penetration: high
Consumption: 100/300 g/m² depending on substrate porosity
Storage time: 24 months in its original packaging. Protect from frost
Packaging: 2 - 5 - 10 kg cans



Rapidcem

Quick setting hydraulic binder. Suitable for rapid fixing on horizontal and vertical substrates. Typical examples of application are: fixing and laying of pipes, brackets, fencing, etc. Sealing of tracks on walls made by plumbers and electricians. Installation of manholes, manhole covers, etc. Watertight sealing of cisterns and reinforced concrete tanks. Elimination of leaks in pipelines, drains, underground structures, basements, etc. Ideal for all small masonry work, repairs, home renovations.

Technical features
Mixing water: 6.25 l for 1 x 25 kg bag
Consumption: 1.8 kg for 1 litre of cavity to fill
Application temperatures: From +5°C to +35°C
Duration of the mix: approximately 2 minutes
Storage time: 12 months inside the original packaging, in a dry place
Packaging: 25 kg bag
5 kg bags (boxes of 5 pieces)





Litostick X35
Hot melt glue sticks for ceramic samples.
Used for the gluing of ceramic tile samples and show rooms.
Litostick X35 for its greater adhesive power, is especially recommended for the application of non-absorbent materials such as clinker and porcelain tiles.

Technical features
Colour: Yellow
Melting point: 180-190°C
Stick diameter: 12 mm
Open time: 30 seconds
Stick length: 120 mm
Storage time: unlimited inside the original packaging, in a dry place.
Packaging: 5 kg box



Litogap
Closed-cell expanded polyethylene cord for expansion joints.
Suitable for filling the joint section of horizontal or vertical tiled surfaces indoors and outdoors prior to the application of elastomeric sealants. The product has the following features: totally impervious towards water. It retains its characteristics over time.
The non-stick surface enables sliding of the elastomeric sealants. Excellent support for the elastomeric sealants as it is extremely elastic.

Technical features
Colour: Grey
Available diameter: 6-10-15-20-25-30 mm
Longitudinal tensile strength (ISO 1926): 201 KPa
Application temperatures: from -40°C to +80°C
Density (ISO 845): 31 kg/m³
Longitudinal elongation at break (ISO 1926): 69%
Storage time: unlimited inside the original packaging, in a dry place.
Packaging:
Litogap Ø 6 mm 2500 m roll
Litogap Ø 10 mm 1150 m roll
Litogap Ø 15 mm 550 m roll
Litogap Ø 20 mm 350 m roll
Litogap Ø 25 mm 200 m roll
Litogap Ø 30 mm 160 m roll



Litoside
Expanded polyethylene strip for perimeter joints. Suitable for the construction of perimeter separation joints in indoor and outdoor flooring prior to the execution of the screeds. The product possesses the following features: low absorption of water. Compressible and flexible. It retains its characteristics over time

Technical features
Colour: Grey
Water absorption (ASTM C272): 0.42%
Dimensions:
Thickness: 5 mm
Height: 100 mm
Roll length: 10 m
Water vapour permeability (ASTM E96): 7.95 g/m²/24h
Density (ISO 845): 20 kg/m³
Temperature of use: from -80°C to +90°C
Deformation at break (ASTM 0638M): 81.3%
Stress at break (ASTM 0638M): 2.3 kg/cm²
Storage time: unlimited inside the original packaging, in a dry place.
Packaging: 2 pcs. box

Products for parquet floors





Litopar P2

Bicomponent water-free adhesive for parquet. Suitable for glueing all types and formats of wooden floors on substrates of various kinds such as: cementitious screeds, litocem based screeds, heated screeds, anhydrite screeds and existing ceramic flooring, stone and marble tiles.

Technical features
Colour: Beige
Duration of the mix: Approx. 2 hours
Application temperatures: from +10°C to +30°C
Application: Notched trowel
Consumption: 1 - 1.2 kg/m²
Walkable after: 12-24 hours depending on the environmental conditions
Storage time: 6 months in its original packaging. Store at a temperature between +5°C and +25°C
Packaging:
9,4 kg bucket (comp. A)
0,60 Kg bucket (comp. B)



Primer P1

Consolidating and waterproofing polyurethane primer. Suitable for consolidating and waterproofing treatment of absorbent, crumbly and powdery cementitious substrates with residual moisture (max. 4% measured with a carbide hygrometer). By mixing it with fine sand you obtain synthetic mortars for levelling or repair work. The product must be diluted with the D1 diluent in accordance with the absorption of the substrate.

Technical features
Appearance: Liquid
Colour: Amber yellow
Dilution: 2:1 with D1 diluent
Application temperatures: from +10°C to +30°C
Application: Brush or roller
Drying time: Approx. 3-4 hours
Final hardening: Approx. 72 hours depending on the environmental conditions and the applied quantities
Consumption: 0.2 – 0.5 litres/m² (product diluted 2:1)
Storage time: 6 months in its original packaging. Store at a temperature between +5°C and +25°C.
Packaging: 10 l bucket

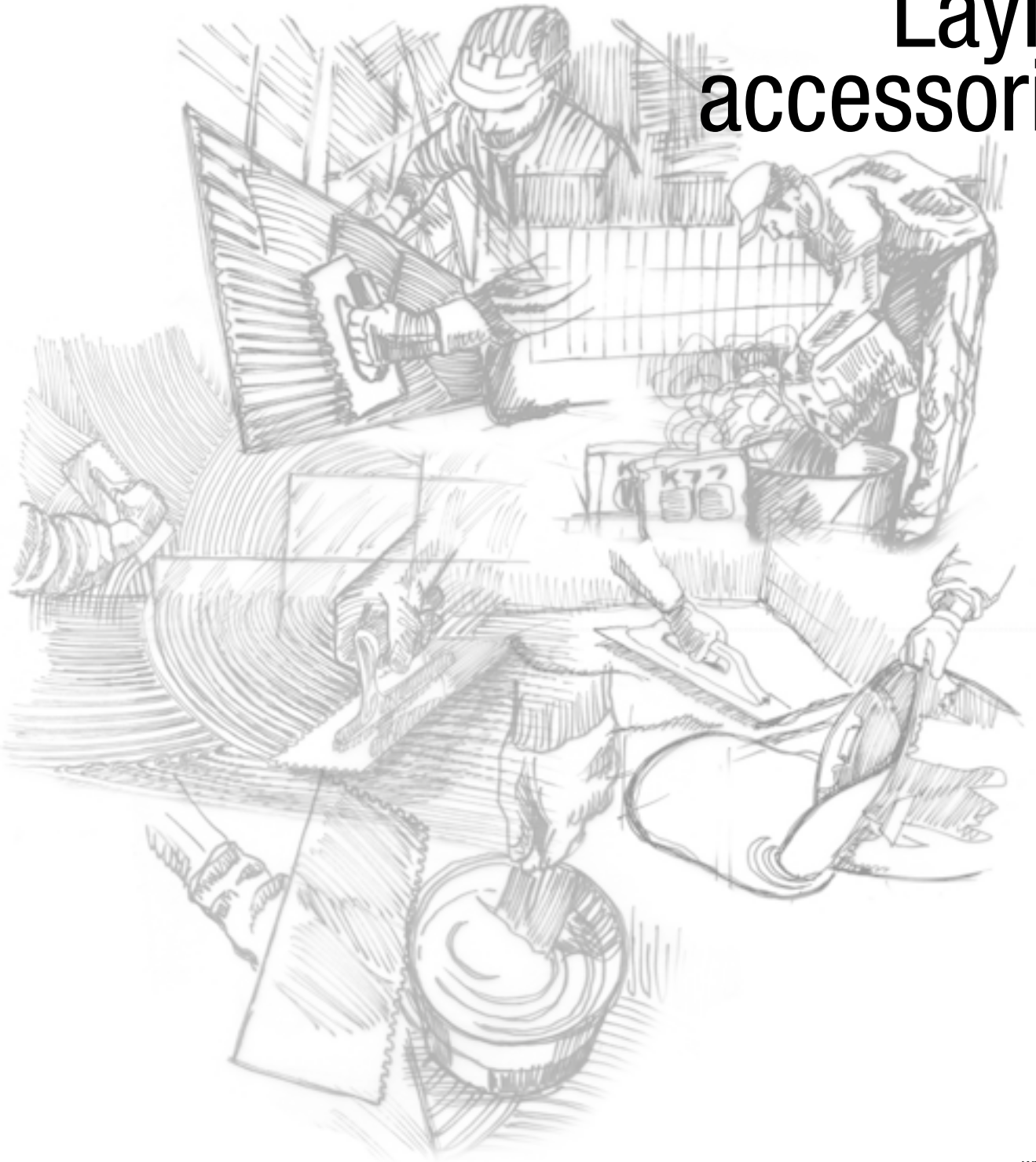


Diluyente D1

Diluent for Primer P1. Suitable for diluting the single component polyurethane primer Primer P1, as a penetration promoter on absorbent cementitious substrates. The product must be mixed with Primer P1 in the ratio of 1:1 or 1:2 depending on the degree of absorption of the substrate.

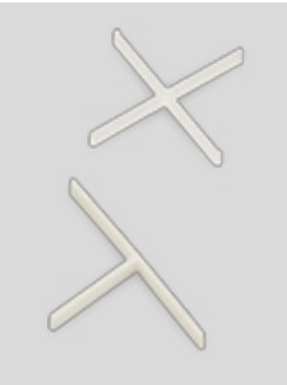
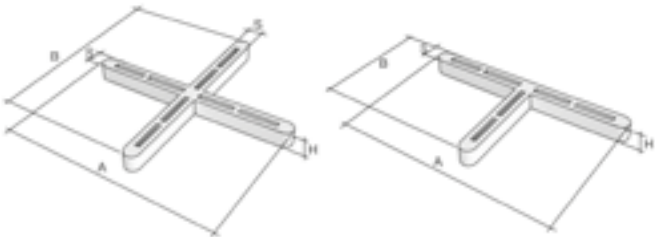
Technical features
Appearance: liquid
Colour: colourless
Dilution: 1:1 - 1:2 with primer P1
Storage time: 6 months in its original packaging. Store at a temperature between +5°C and +25°C.
Packaging: 10 l bucket

Laying accessories



Spacers for cross and “T” laying

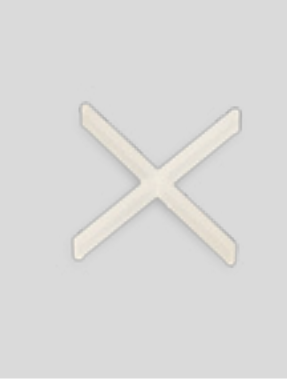
The Litokol range of spacers consists of 8 sizes (from 1 to 10 mm) across fifteen different models. A range of spacers for the professional who can choose the most suitable models for the job both for cross and “T” laying.



Spacers 1 mm - 1/32”

DST1000.1C				DST1000.1T			
S	A	B	H	S	A	B	H
1 mm	28 mm	28 mm	3 mm	1 mm	32 mm	16 mm	4 mm

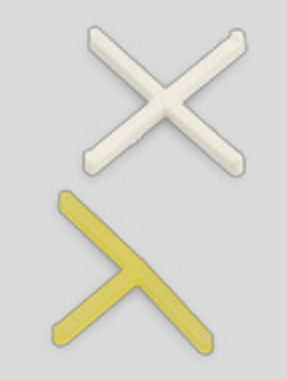
Article	Type		
DST1000.1C	+	1x1000	25x1000
DST1000.1T	└	1x1000	25x1000



Spacers 1,5 mm - 1/16”

DST1000.1.5C			
S	A	B	H
1,5 mm	33 mm	33 mm	5 mm

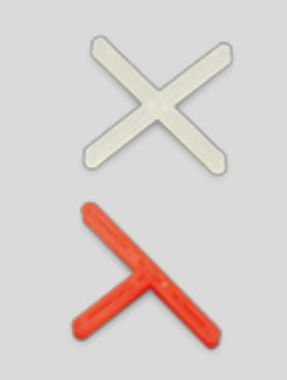
Article	Type		
DST1000.1.5C	+	1x1000	30x1000



Spacers 2 mm - 3/32”

DST1000.2C				DST1000.2T			
S	A	B	H	S	A	B	H
2 mm	28 mm	28 mm	2,8 mm	2 mm	28 mm	16 mm	2,8 mm

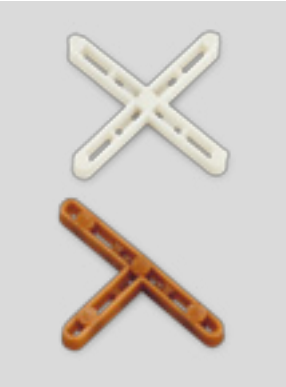
Article	Type		
DST1000.2C	+	1x1000	25x1000
DST1000.2T	└	1x1000	25x1000



Spacers 3 mm - 1/8”

DST1000.3C				DST1000.3T			
S	A	B	H	S	A	B	H
3 mm	38 mm	38 mm	3,5 mm	3 mm	38 mm	20 mm	3,5 mm

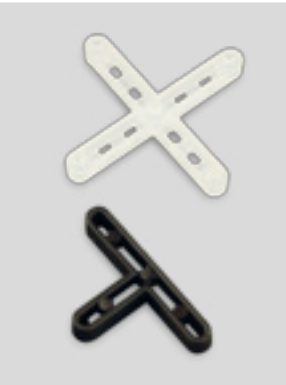
Article	Type		
DST1000.3C	+	1x1000	25x1000
DST1000.3T	└	1x1000	15x1000



Spacers 4 mm - 5/32”

DST1000.4C				DST1000.4T			
S	A	B	H	S	A	B	H
4 mm	38 mm	38 mm	4 mm	4 mm	38 mm	20 mm	4 mm

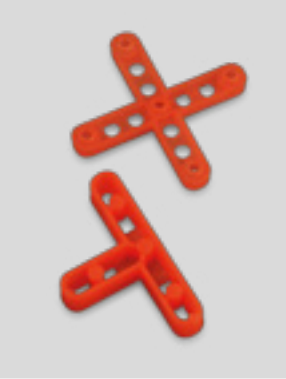
Article	Type		
DST1000.4C	+	1x1000	20x1000
DST1000.4T	└	1x1000	15x1000



Spacers 5 mm - 3/16”

DST1000.5C				DST1000.5T			
S	A	B	H	S	A	B	H
5 mm	50 mm	50 mm	6 mm	5 mm	35 mm	28 mm	6 mm

Article	Type		
DST1000.5C	+	1x1000	20x1000
DST1000.5T	└	1x1000	15x1000



Spacers 7 mm - 9/32”

DST1000.7C				DST1000.7T			
S	A	B	H	S	A	B	H
7 mm	40 mm	40 mm	5 mm	7 mm	40 mm	25 mm	7 mm

Article	Type		
DST1000.7C	+	1x1000	10x1000
DST1000.7T	└	1x1000	10x1000



Spacers 10 mm - 3/8”

DST1000.10C				DST1000.10T			
S	A	B	H	S	A	B	H
10 mm	40 mm	40 mm	7 mm	10 mm	50 mm	30 mm	7 mm

Articolo	Type		
DST1000.10C	+	1x1000	6x1000
DST1000.10T	└	1x1000	10x1000



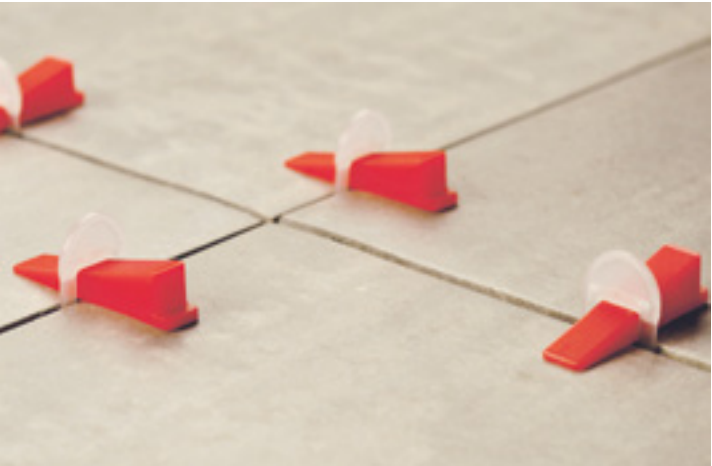
Spacing wedges

				CNN1000.M		
				A	B	H
				28 mm	10 mm	6 mm

Article	Type		
CNN1000.M	▲	1x1000	20x1000

Large format levelling spacers

The spacers for the Litokol levelling system simplify the work of installers when laying large formats and low-thickness tiles from 3 to 6 mm. These spacers consist of two elements: base and wedge; pliers are also available to tighten the wedge within the base by exerting optimum pressure in order to obtain a level installation. Once the adhesive has hardened the base is easily removed using a rubber mallet or by simply using your foot whereas the wedge can be reused several times.



Art. 170/B
Spacer base

Article		
DLVBAS0500	1x500	8x500



Apply the adhesive and place the support under the tile on all four sides. Position one or more supports per side according to the side of the tiles. Set the tiles and tap them using the rubber mallet.

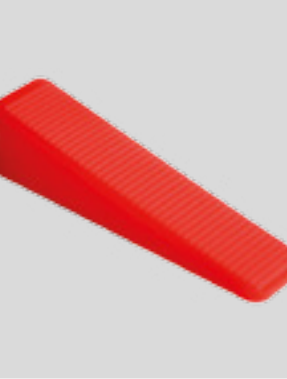


It is recommended to use the special pliers without using force, to avoid reaching the breakpoint.



ART. 170/K

Kit consisting of pliers + 100 wedges + 100 bases for tile thickness from 3 to 12 mm



Art.170/C
Spacer wedge

Article		
DLVCUN0100	1x100	24x100



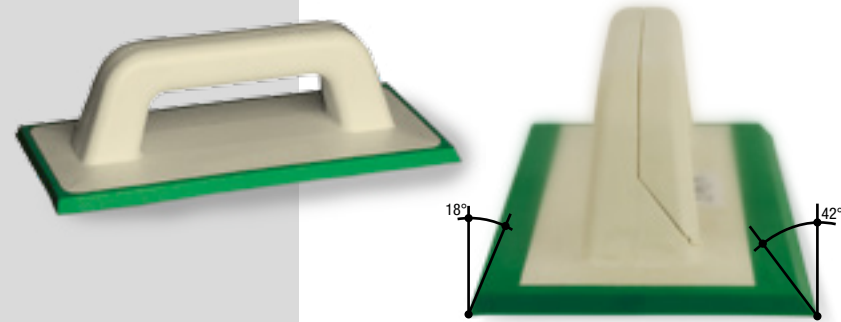
Place the wedge inside the slit of the support.



Once the adhesive has set, remove the wedge and the protruding part of the support by tapping in the direction of the grouting line, using the rubber mallet or by using your foot
Minimum width of joint/grouting: 1.5 mm
Tile thickness: from 3 to 12 mm

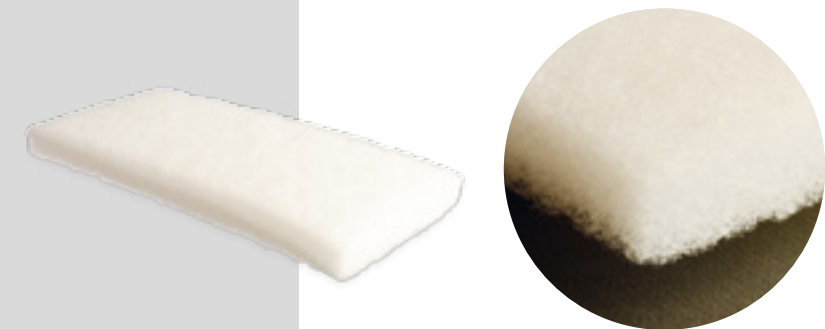
Starlike® special tools

Art. 104/G
Green rubber spatula for epoxy grouts.
Rubber with double profile (18° - 42°) for optimum performance in all conditions.



Starlike® special tools

Art. 109/G
White felt



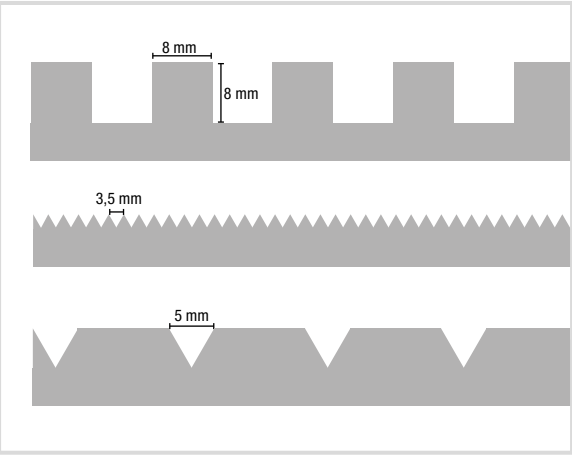
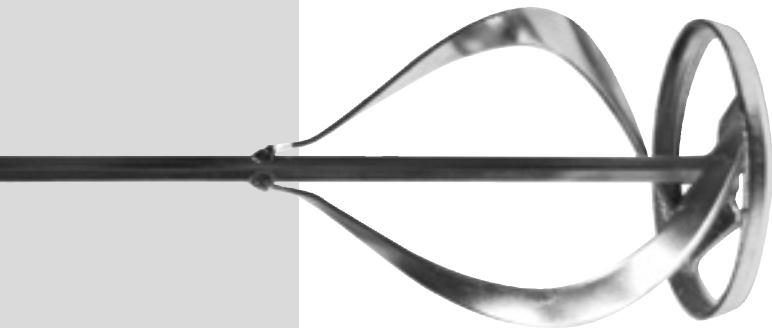
Starlike® special tools

Art. 128/G
Sweepex sponge for epoxy grouts

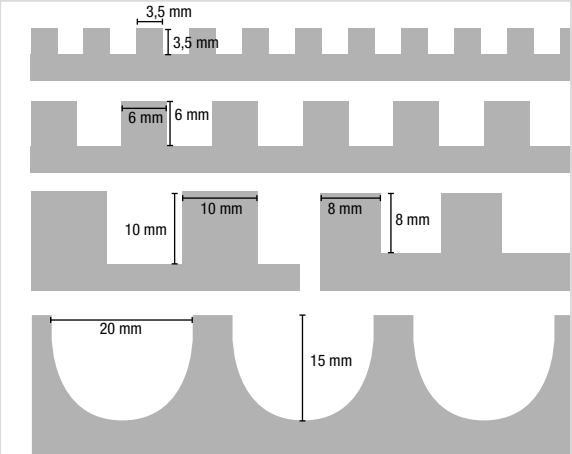
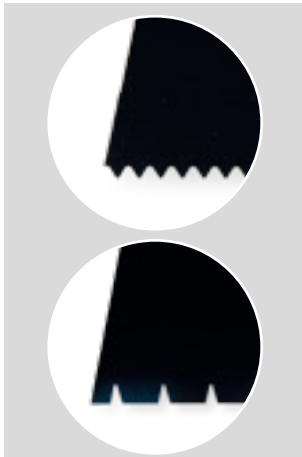


Starlike® special tools

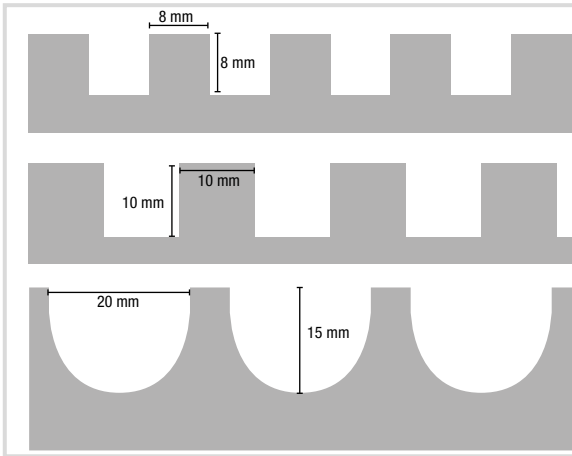
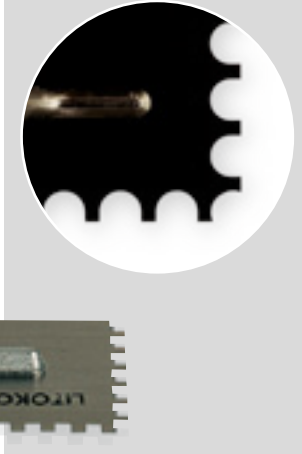
Art. 133/T
Mixing paddle for Starlike®



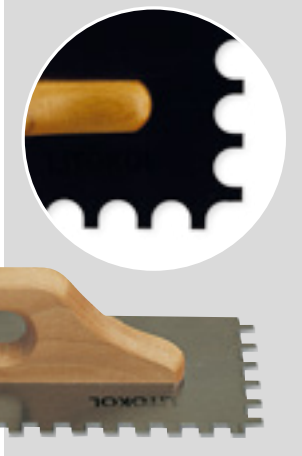
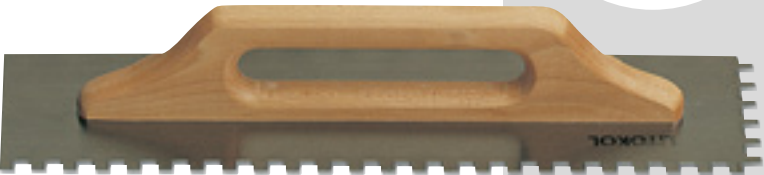
Art. 112/D
Small steel notched trowel
Length: 20 cm
Notch:
8x8 mm - $\wedge\wedge$ 3,5 mm - $\wedge\wedge$ 5 mm



Art. 121/D
Standard steel notched trowel
Dimensions: 12x28 cm
Notch:
3,5x3,5 mm - 6x6 mm
8x8 mm - 10x10 mm
15 mm round



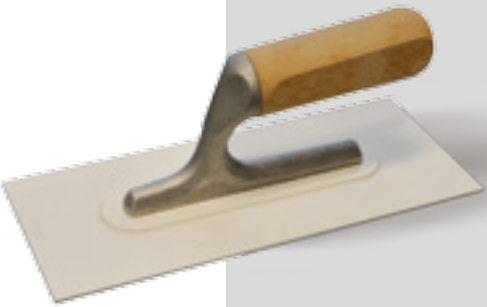
Art. 122/D
Long steel notched trowel
Dimensions: 13x48 cm
Notch:
8x8 mm - 10x10 mm - 15 mm round



Art. 103/PRO
Professional plastering
trowel for Starlike® Decor



Starlike® Decor
special tools



Art. 105/G

Completely rubber
blue trowel for
cementitious grouts
Dimensions: 115x250 mm



Art. 105/NEW

Blue trowel with interchangeable rubber
for grouting ceramic surfaces with
cementitious grouts
Dimensions: 95x245 mm

Art. 105/RIC

Spare for blue rubber trowel



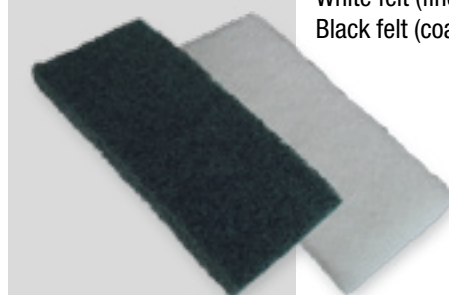
Art. 108/G

Trowel with two interchangeable felt
pads for cleaning grouted surfaces.
Dimensions: 12x25 cm



Art. 109/G

Spare felt pads
White felt (fine)
Black felt (coarse)



Art. 114/G

25 litre wash basin complete
with sponge float



The high absorption Sweepex sponge
allows for perfect cleaning.
The base of the basin has no sharp
angles which allows for easy cleaning.
Kit: Sweepex sponge float, grid, carry
handle, Ø 80 mm wheels.



Art. 115/G

Sponge float for cleaning grouting
Dimensions: 13x44 cm
Thickness: 3 cm



Art. 115/RIC

Spare for sponge float



Art. 116/G

Sponge float for
cleaning grouting
Dimensions: 17x34 cm
Thickness: 4 cm



Art. 116/RIC

Spare for sponge float



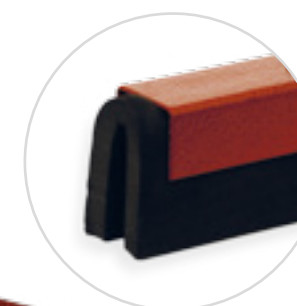
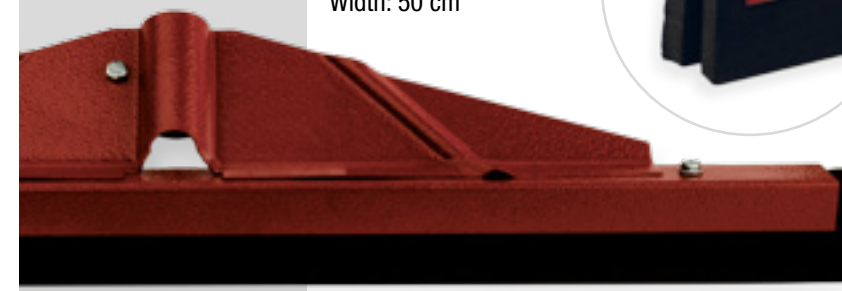
Art. 107/G

Aluminium handle for
rubber rake and sponge trowel
Length: 133 cm



Art. 106/G

Rubber rake for
cementitious grouts
Width: 50 cm



Art. 131/T
4-rod mixing paddle
Rod length: 40 cm



Starlike® Monomix
special tools



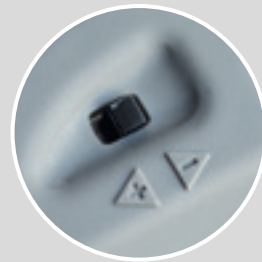
Art. 125/G
Synthetic foam sponge for
Starlike® Monomix



Art. 131/G
Cellulose sponge for
cementitious grouts



Art. 132/T
Spiral mixing paddle
Rod length: 37,5 cm



Temperature control

Art. IHM/113
Hot melt electric glue gun
Suitable sticks:
Litostick X35
Voltage: 220-240 V
Power: 280 W
Extrusion capacity: 1 kg/h
Weight: 0,500 kg



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