



TWO-PART ACID-RESISTANT EPOXY MORTAR FOR INSTALLATION AND GROUTING OF CERAMIC TILES AND MOSAIC WITH JOINT WIDTHS BETWEEN 2 AND 10 mm. PATENT PRODUCT 05744761.7 B1

DESCRIPTION

Two-part anti-acid epoxy mortar. Part A consists of a mixture of epoxy resin, siliceous aggregates and additives. Part B consists of a mixture of organic catalysts. The product's main characteristics are:

- Extremely easy application and to clean even compared to normal cementitious sealants.
- Stable and uniform colouring for all types of tiles with exclusive colour effects.
- High mechanical strength.
- Very low water absorption.
- Total absence of cracking or crazing during hardening.
- Excellent chemical resistance.

CLASSIFICATION EN 13888

LITOCHROM STARLIKE Class RG Reactive grout

CLASSIFICATION EN 12004

LITOCHROM STARLIKE Class R2T Enhanced reactive adhesive with zero vertical slip

FIELDS OF APPLICATION

Suitable for acid-resistant installation and grouting of floor and wall tiles and mosaic in interiors and exteriors with grout joints between 3 and 10 mm wide, such as:

- Floor and wall tiles in general.
- Floor and wall tiles in bathrooms and showers.
- Underfloor heating.
- Kitchen countertops.
- Terraces and balconies.

• Suitable when in contact with food items, according to D.M of 21.03.1973 (hygienic discipline of packaging, food container and tools for the contact with food items and personal use products) and to the following Decrees of the Health Minister 26.04.1993 n°220. A copy of the certificate may be asked to the Litokol Technical Bureau.

LITOCHROM STARLIKE can be used for the grouting of ceramic tiles in environments submitted to direct contact with foods, like: workbench of meats, dairy products or flours, basin for fish breeding, workbench in restaurant and bakeries.

Suitable for applications where surfaces are exposed to aggressive chemical substances (see chemical resistance table) such as dairies, abattoirs, pubs, food factories in general. Also recommended for grouting swimming pools and tanks containing thermal or brackish water.

PRELIMINARY CHECKS AND JOINT PREPARATION

Check that the adhesive or mortar used to fix the tiles has completely hardened and dried. The joints must be clean, free of powder and empty down to at least 2/3 of the tile thickness. Any adhesive or mortar that has squeezed up inside the joints must be removed.

MIXING RATIOS

PART A: 100 parts by weight PART B: 7.2 parts by weight
The two parts are pre-batched in their respective containers

MIX PREPARATION

Pour part B (catalyst) contained in the small bucket onto part A (paste). Be sure to pour in the entire contents of the catalyst, using a steel spatula to scrape the sides and bottom of the container. Preferably mix using an electric drill equipped with mixing paddle until a uniform, lump-free mix is obtained. Hand mixing is not recommended. The two parts are pre-batched in their packaging, avoiding all risk of mixing errors.

GROUTING

Introduce the paste into the joints using a special green rubber float (art. 104/G). For large surfaces, an electric single-brush floor maintenance machine equipped with an abrasion-resistant rubber scraper can be used. Remove excess product using the rubber float. The product's pot life and hardening time is strongly dependent on the ambient temperature. The ideal temperature for application is between +18 and +23°C.

In these conditions the product is an easily workable smooth mortar, with a pot life of about 45 minutes. It is ready for foot traffic after 24 hours. At a temperature of +15°C it takes three days before the surface is ready for foot traffic. The floor is ready to use and resistant to chemicals after five days at a temperature of +23°C and after 10 days at a temperature of +15°C. At temperatures of between +8 and +12°C, the product is very dense and difficult to apply. The hardening time is also lengthened considerably.

Do not add water or solvents to improve workability. In hot weather it is advisable to apply the product to the floor as quickly as possible so as not to further shorten pot life due to the reaction heat in the container.

CLEANING AND FINISHING

The grout work must be cleaned and finished while the product is still wet and in any case in the shortest possible time. Take care not to remove product from the joints or leave stains on the tile surface. Cleaning and finishing can be performed either manually or using an electric single-brush machine equipped with a felt disc.

MANUAL METHOD: First sprinkle clean water over the grouted surface. If necessary, perform initial cleaning using a brush equipped with a moistened white felt disc (art. 109/G). Make circular movements in both clockwise and anticlockwise directions in order to perfectly grout the sides of the tiles and remove excess grout from the surface of the tiles. Now perform a second pass with a rigid cellulose sponge (art. 131/G) to obtain a smooth, closed surface, completely eliminating the product from the surface of the tiles without removing it from the joints, and drying off the excess water. When the felt disc and sponge are impregnated with resin and can no longer be cleaned, they must be replaced.

METHOD WITH SINGLE-BRUSH MACHINE: After removing excess grout from the surface, sprinkle plenty of clean water over the grouted surface. Now commence cleaning using the single-brush machine equipped with felt disc. Replace the felt disc when it is impregnated with product. Stains or residues can be removed after 12-24 hours using the specific LITONET.

LITONET USE

Spread on LITONET on the whole surface pure or diluted 1:10 with water, depending on the remained marks. When the mortar has become dull (after 15-30 minutes), rub the surface with a white felt disc (art. 109\G) or with a single-brush. Rinse immediately with clean water and dry with a proper cloth.

Do not wait the evaporation of the water because it may leave marks on the ceramic surface.

USE AS ADHESIVE

Apply to the substrate using a trowel with suitable notch size, then position the tiles and press firmly into place.

CAUTIONS

- If possible, apply the product at temperatures of between +18°C and +23°C. Do not use at low temperature or in environment with high humidity, in order to avoid the superficial carbonation that may modify the uniformity of the colour.
- Remove excess product from the tile surface rapidly because once hardened it will have to be removed mechanically, seriously jeopardising the finished result.
- Do not use for grouting Tuscan terracotta or other materials and porous manufactured products like cementitious riddles.
- Do not cover the grouted surface with length of cloth or other materials to avoid the condensation that may entile the superficial carbonation of the product with the resulting non-homogeneity of the colour.
- The product must not be used for grouting tanks containing aggressive substances with which only occasional contact is permitted (see chemical resistance table).
- Do not use the product for grouting surfaces in contact with oleic acid such as olive oil mills and ham factories.
- Do not mix the product with water or solvents.
- Do not use for applications not stated on this technical sheet.

IDENTIFICATION DATA

Appearance	Part A: thick coloured paste	Part B: dense liquid		
Colours available	Oceano C.200	Bianco Ghiaccio C.270	Acquamarina C.210	Grigio C.280
	Silver C.220	Travertino C.290	Corallo C.230	Pietra d'Assisi C.300
	Antracite C.240	Titanio C. 310	Sabbia C.250	Bianco Neve C. 320
	Zaffiro C.260	Neutro C. 340	Giallo Sun C. 330	

Customs code	3506 91 00
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Shelf life	24 months in original packaging in dry place
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APPLICATION DATA

Time before grouting	Floor tile installation with normal-setting adhesive: 24 hours Floor tile installation with fast-setting adhesive: 4 hours Floor tile installation with mortar: 7-10 days Wall tile installation with normal-setting adhesive: 6-8 hours Wall tile installation with fast-setting adhesive: 4 hours Wall tile installation with mortar: 2-3 days
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Mix consistency	Creamy
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Specific gravity of mix	1.55 kg/l
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Pot life	About 45 minutes at T=+23°C
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Permitted application temperatures	From +12°C to +30°C
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Recommended application temper.	From +18°C to +23°C
Walk on time	24 hours at T=+23°C
Ready for use	5 days at T=+23°C
Joint width	From 2 to 10 mm

CONSUMPTION

Tile (mm)	Joints (mm)						
	1,5	2	3	4	5	7	10
Coverage (Kg/m ²)							
10x10x3	1,40	1,86	2,79	3,72	4,65	6,51	9,30
10x10x10	4,65	6,20	9,30	12,40	15,50	21,70	31,00
20x20x3	0,70	0,93	1,40	1,86	2,33	3,26	4,65
25x25x8	1,49	1,98	2,98	3,97	4,96	6,94	9,92
30x30x8	1,25	1,66	2,49	3,32	4,16	5,82	8,31
50x50x4	0,37	0,50	0,75	0,99	1,24	1,74	2,48
100x100x6	0,28	0,37	0,56	0,75	0,93	1,30	1,86
100x100x8	0,37	0,50	0,74	0,99	1,24	1,74	2,48
125x250x8	0,22	0,30	0,45	0,60	0,75	1,10	1,49
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
200x200x12	0,28	0,37	0,56	0,74	0,93	1,30	1,86
200x250x8	0,17	0,22	0,35	0,45	0,56	0,78	1,12
200x300x8	0,16	0,21	0,31	0,41	0,51	0,72	1,02
250x300x8	0,14	0,18	0,27	0,36	0,45	0,63	0,90
250x330x8	0,13	0,17	0,26	0,35	0,44	0,61	0,87
300x300x6	0,09	0,12	0,19	0,25	0,31	0,44	0,62
300x300x8	0,12	0,17	0,25	0,33	0,41	0,58	0,82
300x300x12	0,19	0,25	0,37	0,49	0,61	0,86	1,23
330x330x8	0,10	0,15	0,22	0,30	0,37	0,52	0,75
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
600x600x12	0,09	0,12	0,19	0,25	0,31	0,43	0,62

Use as Adhesive	Trowel notc size: 4 mm	Consumption: 1,6 Kg/m ²
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PERFORMANCE

Shear adhesion strength EN 12003	Initial	> 2 N/mm ²
	After immersion in water	> 2 N/mm ²
	After thermal shock	> 2 N/mm ²
Abrasion resistance (EN 12808-2)	≤ 250 mm ³	
Mechanical flexural strength after 28 days in standard conditions (EN 12808-3)	≥ 30 N/mm ²	
Mechanical compressive strength after 28 days in standard conditions (EN 12808-3)	≥ 45 N/mm ²	
Shrinkage (EN 12808-4)	≤ 1.5 mm/m	
Water absorption after 4 hours (EN 12808-5)	≤ 0.1 g	
Temperature of use	From -20°C to +100°C	

CHEMICAL RESISTANCE TABLE

(the table is a summary of the chemical resistance proof made according to regulation UNI EN 12808)

Chemical resistance on industrial floors

GROUP	NAME	CONC.%	CONDITION				Intermittent Use	
			24 Hours	7 Days	14 Days	28 Days		
Acids	Acetic Acid	2,5	+	+	+	+	+	
		5	+	+	+	(+)	+	
	Hydrochloric Acid	37	+	+	+	(+)	+	
	Citric Acid	10	+	+	+	+	+	
	Lactic Acid	2,5	+	+	+	+	+	
		5	+	+	+	+	+	
		10	+	+	+	+	+	
	Nitric Acid	25	+	+	+	+	+	
		50	+	-	-	-	+	
	Oleic Acid	PURE	+	-	-	-	+	
	Vitriol	1,5	+	+	+	+	+	
		50	+	+	+	+	+	
		96	-	-	-	-	-	
		Tannic Acid	10	+	+	+	+	+
		Tartaric Acid	10	+	+	+	+	+
		Oxalic Acid	10	+	+	+	+	+
Alkalis	Ammonia in solution	25	+	+	+	+	+	
	Caustic Soda	50	+	+	+	+	+	
	Sodium Hypochlorite							
	Conc. Cl active	> 10	+	+	+	(+)	+	
	Caustic Potash	50	+	+	+	+	+	
	Sodium Bisulphite	10	+	+	+	+	+	
Concentrated solutions 20°C	Iposulphite Sodium		+	+	+	+	+	
	Calcium Chloride		+	+	+	+	+	
	Sodium Chloride		+	+	+	+	+	
	Ferric Chloride		+	+	+	+	+	
	Sugar		+	+	+	+	+	
Oils and Fuels	Petrol, Fuels		+	+	+	(+)	+	
	Turpentine		+	+	+	+	+	
	Gas Oil		+	+	+	+	+	
	Olive Oil		+	+	+	+	+	
	Lube Oil		+	+	+	+	+	
Solvents	Acetone		+	-	-	-	+	
	Ethylene Glycol		+	+	+	+	+	
	Glycerine		+	+	+	+	+	
	Ethyl Alcohol		+	+	(+)	-	+	
	Solvent Petrol		+	+	+	+	+	
	Peroxide Water	1	+	+	+	+	+	
	10	+	+	+	+	+		

Key: + Excellent resistance (+) Good resistance - Poor resistance

PACKAGING

2.5 kg plastic bucket Standard pallet 375 kg
5 kg plastic bucket Standard pallet 450 kg
10 kg plastic bucket Standard pallet 400 kg

SAFETY INFORMATION

According to 91/155 EEC

Part A Xi – Irritant

R36/38 - Irritating for eyes and skin. R43 - May cause sensitisation by skin contact. S24 - Avoid contact with skin. S 26 - In case of contact with eyes, wash immediately with plenty of water and seek medical advice. S 28 – After contact with skin, wash immediately using a suitable product.

S37/39 - Wear suitable gloves and protect face and eyes

Part B C – Corrosive

R22 - Harmful if swallowed. R34 - Causes burns. R43 - May cause sensitisation by skin contact. S24 - Avoid contact with skin. S 26 - In case of contact with eyes, wash immediately with plenty of water and seek medical advice. S 28 – After contact with skin, wash immediately using a suitable product.

S37/39 - Wear suitable gloves and protect face and eyes.

Although the information provided on this technical sheet is accurate to the best of our knowledge and experience, it is intended purely as a guideline. The user must carry out preliminary practical tests for each specific job and is solely responsible for the final result.