

# CE 89

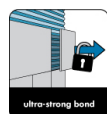
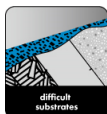
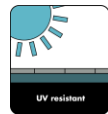
## »ULTRAEPOXY PREMIUM«



## Two – component chemical-resistant epoxy mortar for installation and grouting of tiles and mosaics

### CHARACTERISTICS

- ▶ Optimized UV and weather resistant
- ▶ Stable and uniform colors for all types of tiles
- ▶ Easy application and cleaning as cementitious grout mortar. Prevents color pigment leakage into the ceramic surfaces
- ▶ Excellent chemical resistance
- ▶ High mechanical strength
- ▶ Near absence of cracks and fissures
- ▶ Vertical resistance/Slip resistance
- ▶ Can be used as a grout mortar and adhesive
- ▶ Joint width 1 to 15 mm
- ▶ Suitable for the contact with food



### SCOPE OF USE

Suitable for acid-resistant installation and grouting of floor and wall tiles and mosaic in interiors and exteriors with grout joints between 1 and 15 mm wide, such as:

- ▶ Floor and wall tiles in general for residential, public and industrial areas
- ▶ Floor and wall tiles in bathrooms, showers, swimming pool, tanks, thermal or brackish water, spas and hammams.
- ▶ Underfloor heating.
- ▶ Kitchen countertops.
- ▶ Terraces and balconies.
- ▶ Suited for drinking water and food processing applications.

Suitable for applications where the surfaces are



CERESIT\_CE 89\_TDS\_12\_2018

exposed to aggressive chemical substances (see chemical resistance table) such as dairies, abattoirs, pubs, food factories in general. It is also recommended for grouting swimming pools and tanks, containing thermal or brackish water, spas and hammam baths. Product is tested according to Food Contact Materials Regulation (EC) 1935/2004 (Hygienic discipline of packaging, food containers and tools for the contact with food items and personal use products). The product, therefore, can be used for the grouting of ceramic tiles in environments submitted to direct contact with food items, such as: workbenches for meat, dairy products or flours, basins for fish breeding, kitchen tables in restaurants, bakeries and pastry shops. Suitable for installation and grouting of mosaic in swimming pools on the waterproof membranes like CL 50, CI 71, CL 72, CL 69.

### SUBSTRATE PREPARATION

CE 89 adheres to all sound, load-bearing, clean and dry substrates free of substances that may impair adhesion. Prior to grouting, the surface, thin-bed mortar or bedding mortar must have set sufficiently hard and

all joints must be uniformly raked to the same depth and width. To ensure a permanent bond with metal, the substrates must be bright metal or coated with an epoxy corrosion inhibitor.

## APPLICATION

CE 89 consists of two components supplied in one container. Component A consists of an epoxy resin mixture, siliceous aggregates and additives. Component B consists of a mixture of organic catalysts.

### MIXING RATIOS

Component A: 100 parts by weight

Component B: 8 parts by weight

The two parts are pre-batched in their respective containers

### MIXING

Add the hardener (component B-catalyst) contained in the plastic bag to the resin (component A) and mix with a low speed electric drill and stirrer (approx. 400 rpm) until the mixture is completely free of lumps. Scrape the sides and the bottom of the container, using a steel spatula, to make sure that all the paste is catalyzed. Hand mixing is not recommended. The two parts are pre-batched in their packaging, avoiding, this way, all risk of mixing errors.

### INSTALLATION OF TILES AND STONES:

CE 89 is applied using the thin-bed method. The notch size of the trowel must be adapted to the respective tile or stone format in accordance with the local norms. The working time, which is identical with the correction time, is approx. 60 minutes at room and container temperatures of +18 °C. When installing ceramic coverings subject to heavy-duty conditions, e.g. in therapeutic baths, swimming pools or battery rooms, waterproof the whole surface area with CL 71 Epoxy Primer and CL 72 Epoxy Seal. This protects the surface against the penetration of water and chemical resistant the effects of acids and alkalis. Use the accessory products like CL 152, CL 82 and CL 89 (sealing tapes and collars) for producing waterproof corners and edges. Embed these products into the middle of the waterproofing coat in corners and movement joints.

### GROUTING

#### Grouting the joints (trowel method)

Work the mixed compound with an epoxy grout float into the clean, dry joints. Make sure the joints are completely filled without any voids. Afterwards remove any excess material by skimming it diagonally off the tile surface with the grout float. For large surfaces, an electric single-brush floor maintenance machine equipped with an abrasion-resistant rubber scraper can be used.

#### Grouting the joints (injection method)

Produce a homogeneous mixture of components A + B, pour it into another suitable vessel (e.g. by the company Beyer & Otto GmbH, Kleinostheim/Germany) and fill it through a single-hole pressure disk into the cartridge. Screw on a nozzle that matches the joint

width and inject the epoxy grout void- and bubble-free into the joints. Skim off any excess material with the epoxy grout float.

### 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 to not 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.

Stains or residues of the Epoxy mortar can be removed after 24 hours or at any rate after grout hardening (the time of hardening depends greatly on the environmental temperature), using the specific cleaner CE 51 Epoxyclean.

### USAGE OF CE 51 EPOXYCLEAN

Spread CE 51 Epoxyclean on the whole surface. Let it act for about 15-30 minutes. Then scrub with an Epoxy sponge or with single-brush machine in case of big surfaces. Rinse with water and dry immediately with a clean and dry cloth. Do not wait the evaporation of the rinse water to avoid the formation of stains on the ceramic surface. For a correct use, see in addition the technical data sheet of CE 51 Epoxyclean.

## PLEASE NOTE

- ▶ 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 1 hour. 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 5 days at a temperature of +23°C and after 10 days at a temperature of +15°C.
- ▶ At temperatures between +8 and +12°C, the product is very dense and difficult to apply. The hardening time is also lengthened considerably.
- ▶ In hot weather it is advisable to apply the product to the floor as quickly as possible so as not to shorten further the pot life due to the reaction heat in the container.
- ▶ Do not use for grouting Tuscan terracotta.
- ▶ Some kind of tiles (e.g. polished porcelain tile) and natural stones have rough, microporous surfaces, making them susceptible to staining and very difficult to clean. In this case preliminary test application should be performed. Avoid using grouts with contrasting or excessively dark colors.
- ▶ Unglazed clinker must be grouted solely with the Bahama Beige color product.
- ▶ The product must not be used for grouting chemical tanks containing aggressive substances with which only occasional contact is permitted (see chemical resistance table).
- ▶ Do not mix the product with water or solvents.
- ▶ Remove excess product from the tile surface rapidly



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because once hardened it will have to be removed mechanically, seriously jeopardizing the finished result.

- ▶ Thin ceramic stoneware obtained through compaction and with structured faux wood surfaces can present problems for the removal of halos. In these cases, it is recommended to perform a preventive sample application or consult the technical office.
- ▶ Do not use for applications not stated on this technical sheet.

## OTHER INFORMATION

Should you need support or advice, please consult our advisory service for architects and craftsmen on the **contact information** you will find on **the local Ceresit website**.

Apart from the information given here it is also important to observe the relevant guidelines, regulations and common standards of various organizations and trade associations. The aforementioned characteristics are based on practical experience and applied testing. Confirmed properties and possible uses which go beyond those listed in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23° C and 50 % relative air humidity unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed and that the product itself is subject to local conditions such as amount of water and hardening. A product from another production site may differ.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of willful misconduct or gross negligence on our part or unless there is a case of personal injury or death or a case of liability under the Product Liability Act.

This technical data sheet supersedes all previous editions relevant to this product. Please be aware that this Technical Data Sheet only relates to a product manufactured in the specific relevant production site.

## TECHNICAL DATA

Chemical basis:	Component A – epoxy resin mixture, inert ceramic quartz and mud additives. Component B – mixture of organic catalysts with minimum environmental side effects and lower exposure risks for users.
Fresh mortar density:	1.55 kg/ m <sup>2</sup>
Mixing ratio:	100 parts by weight of component A 8 parts by weight of component B The two parts are pre-batched in their respective containers
Abrasion resistance (EN 12808-2):	≤ 250mm <sup>3</sup>
Mechanical flexural (strength after 28 days in standard conditions - EN 12808-3):	≥ 30 N/mm <sup>2</sup>
Mechanical compressive strength after 28 days in standard conditions (EN 12808-3):	≥ 45 N/mm <sup>2</sup>
Shrinkage (EN 12808-4):	≤ 1,5 mm/m
Water absorption after 4 hours (EN 12808-5):	≤ 0,1 g
Working time:	approx.. 60 minutes
Working temperature:	+10 °C to +25 °C
Open time acc. to EN 1346:	> 2 N/mm <sup>2</sup> (approx.. 60 minutes)
Temperature resistance:	-30 °C to +100 °C (dry heat)
Walk on time:	24 hours at +23°C
Ready for use/full load bearing & chemical resistance:	5 days at +23°C

### CONSUMPTION AS GROUT kg/mq

Tile (mm)	Joint (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	3,2	4,3	5,39	7,55	10,78
25x25x10	1,86	2,48	3,7	5	6,20	8,68	12,40
50x50x4	0,37	0,50	0,7	1	1,24	1,74	2,48
50x50x10	0,93	1,24	1,9	2,5	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	0,84
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

### CONSUMPTION AS ADHESIVE

Trowel notch size: 3,5 x 3,5 mm Consumption: 1,6 Kg/m<sup>2</sup>

Shelf life	24 months in original packaging in dry place
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Ceresit CE 89 Ultra Epoxy Premium  
01480

EN 12004:2007 + A1:2012  
1599

All internal and external tiling

Reaction to fire	Class E
Bond strength as: Initial shear adhesion strength	≥ 2,0 N/mm <sup>2</sup>
Durability for: Shear adhesion strength after water immersion Shear adhesion strength after thermal shock	≥ 2,0 N/mm <sup>2</sup> ≥ 2,0 N/mm <sup>2</sup>

### 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. %	CONTINUOUS USE				INTERMITTENT USE
			24 hrs	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	-	●	●	●	●	●
	Sulphuric Acid	1,5	●	●	●	●	●
		50	●	●	●	●	●
		96	●	●	●	●	●
		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		●	●	●	●	●
Oil and Fuels	Petrol, Fuels		●	●	●	●	●
	Tupperline		●	●	●	●	●
	Gas Oil		●	●	●	●	●
	Olive Oil		●	●	●	●	●
	Lube Oil		●	●	●	●	●
Solvents	Acetone		●	●	●	●	●
	Ethylene Glycol		●	●	●	●	●
	Glycerine		●	●	●	●	●
	Ethyl Alcohol		●	●	●	●	●
	Solvent Petrol		●	●	●	●	●
	Peroxide Water	10	●	●	●	●	●
25		●	●	●	●	●	

Key  
 ● EXCELLENT RESISTANCE  
 ● GOOD RESISTANCE  
 ● POOR RESISTANCE



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