Ceresit

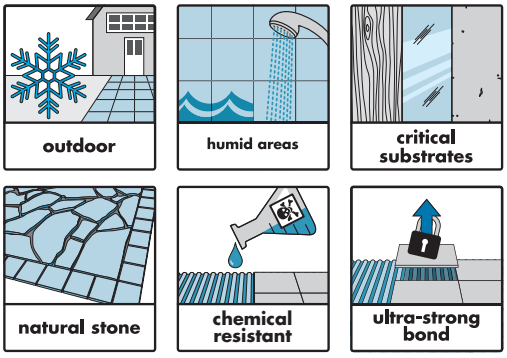
CM 74

UltraPox Fix

2-component, chemical-resistant epoxy adhesive.
For fixing and grouting tiles and stones

CHARACTERISTICS

- ▶ Easy application
- ▶ Waterproof
- ▶ Resistant to chemical attack
- ▶ Solvent-free
- ▶ Drinking water approved



SCOPE OF USE

For the permanent and chemically resistant fixing and grouting of ceramic tiles and stones, acid-resistant bricks, split tiles, chipboards, porcelain, clinker slabs and synthetic resin bonded slabs (Agglo marble etc).
For fixing and grouting ceramic coverings in areas exposed to aggressive substances, e.g. in therapeutic baths, dairies, industrial kitchens, battery rooms, car washes, breweries, silos, animal housing, swimming pools, laboratories, spas, saunas and steam baths. For indoor and outdoor use, in permanently wet and drinking water areas.

SUBSTRATE PREPARATION

CM 74 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

CM 74 consists of two components supplied in one container. Add the hardener (component B) 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. Mixing ratio A/B is 10 : 1.
It is absolutely essential to pour the complete amount of component B (bottle inside the bucket) into component A. Make sure to always mix the full contents of each component pack.
Fixing tiles and stones:
CM 74 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 DIN 18157.
The working time, which is identical with the correction time, is approx. 90 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 CE 49 Epoxy FlexSeal.
This protects the surface against the penetration of water and

the effects of acids and alkalis. Use the accessory products CL 82, CL 83, CL 84, CL 86, CL 87 (sealing tapes and collars) for producing waterproof corners and edges. Embed these products into the middle of the waterproofing coat in the area of corners and movement joints.

Grouting the joints (trowel method):

Work the mixed CM 74 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.

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:

Use a fine hydro grout sponge (not a coarse Scotch-Brite® pad) and a little water to remove any remaining material from the tile surface. Work with circular movements to emulsify the material and then remove the resulting slurry. After that, wipe the remains off with a clean, fine hydro sponge and very little water. Carefully rinse the sponge frequently in clear water. Before cleaning, wait until the epoxy grout has started to set. Before final cleaning, wait at least 3 hours but no more than 6 hours. Use a fine hydro sponge to remove the remaining film off the tile surface. Cleaning is facilitated by adding CE 51 Epoclean to the cleaning water (detergent additive for removing epoxy films). Mixing ratio: 100 ml CE 51 for 8 litres of warm water.

For removing hardened resin films refer to the instructions given in the Technical Data Sheet of CE 51. Remove fresh grout and adhesive residues within the pot life using warm water, CE 51 Epoclean and a brush. Fully hardened material can only be removed mechanically.

After grouting, the newly tiled surface is ready for foot traffic after only 24 hours.

CM 74 reaches its final chemical and mechanical resistance after only 7 days.

PLEASE NOTE

Use CM 74 only at substrate and air temperatures of +10 °C to +25 °C. CU 74 contains epoxy compounds. Please make sure to observe the hazard warnings and safety information on the container and in the Safety Data Sheet.

For further information refer to the information sheets M 004, M 017, M 023, M 042 of the "Berufsgenossenschaft der Chemischen Industrie (BG-Chemie)" (Employers' Liability Insurance Association of the Chemical Industry).

Please refer in particular to DIN 18352, DIN 18157, the information sheets issued by the "Zentralverband des Deutschen Baugewerbes e. V." (Central Association of the German Building Trade) and AGI worksheet S 10.

Should you need support or advice, please consult our advisory service for architects and craftsmen.
Phone: +49 (0) 211/797 106-07/-55/-59
Fax: 0211-798-1204

TECHNICAL DATA

Chemical basis:	epoxy resin with mineral fillers and additives; tested according to DIN 18156-E GISCODE RE 1
Fresh mortar density:	1.6 kg/m²
Mixing ratio:	10 parts by weight of component A to 1 part by weight of component B
Working time:	approx. 90 minutes
Working temperature:	+10 °C to +25 °C
Open time:	approx. 90 minutes
Open time acc. to DIN EN 1346:	> 2 N/mm²
Load-bearing strength:	after 24 hours
Chemical resistance:	after 7 days acc. to resistance Table 1.40 (reichen wir nach)
Temperature resistance:	–30 °C to +100 °C (dry heat)
Adhesive tensile strength:	≥ 2.2 N/mm² under all storage conditions
Shear strength acc. to DIN EN 12003:	> 2 N/mm² under all storage conditions

Consumption when used as tile adhesive:

Notch size in mm	Consumption in kg/m²
3	1.9
4	2.2
6	2.8
8	3.4

Consumption per mm layer thickness:	1.1 kg/m²/mm (approximate value)
Consumption (grouting):	approx. 1.6 kg/l/m² joint (approximate value)
Calculation of the amount required as grout mortar:	Number of joints x joint depth x joint width 1.6 kg/m²

Tile format cm	Tile thickness mm	Tile width mm	Consumption kg/m²
5/5	5	4	1.3
10/10	8	4	1.0
15/15	6	6	0.8
10/20	6	6	0.9
10/20	10	8	1.9
20/20	10	8	1.3

Colour:	grey
Packaging unit:	5 kg, 8 kg
Shelf life:	approx. 12 months if stored in the unopened original container in a frost-free and dry place at a temperature above +10 °C. Use up opened containers as soon as possible.

CE

0432

Henkel AG & Co. KGaA
Henkelstr. 67, D-40589 Düsseldorf

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00052

EN 12004:2007+A1:2012 R2T

Improved reaction resin adhesive with reduced slip

Reaction to fire	**E**
Release of dangerous substances	**see MSDS**
Bond strength, as:	
initial shear adhesion strength	≥ **2.0 N/mm²**
shear adhesion strength after water immersion	≥ **2.0 N/mm²**
shear adhesion strength after therma shock	≥ **2.0 N/mm²**
Durabiliy, for:	
Open time: Tensile adhesive strength after not less than 20 min	≥ **0.5 N/mm²**
Slip	≤ **0.5 mm**

CHEMICAL RESISTANCE of Tile Grouts

Chemical	CE 44	CM 74/CE 79
Acetone	+	–
Alcohol 100 %	+	O
Alcohol 10 %	+	+
Aluminium sulphate, saturated	+	+
Formic acid 2 %	+	
Ammonia solution 25 %	+	+
Ammonia solution 10 %	+	+
Ammonia solution 5 %	+	+
Ammonium nitrate 50 %	–	+
Ammonium phosphate	–	+
Ammonium sulphate 20 %	–	+
Benzene	–	+
Fuel (premium)	–	O
Boric acid 5 %	–	+
Calcium chloride, saturated	–	+
Calcium hydroxide solution	+	+
Calcium nitrate, saturated	+	+
Calcium sulphate	+	+
Iron chloride	+	+
Iron sulphate, saturated	+	+
Glacial acetic acid	–	–
Crude oil (petroleum)	+	+
Acetic acid, 10 %	–	O
Acetic acid, 2 %	+	+
Glycerine	+	+
Glycol	+	+
Household cleaners (Biff, Breff)	+	–
Light fuel oil	+	+
Potash lye 5 %	+	+
Potash lye 25 %	+	+
Potash lye 50 %	+	+
Potassium carbonate, saturated	+	+
Potassium nitrate, saturated	+	+
Potassium sulphate, saturated	+	+
Lime milk	+	+
Kerosene	+	+
Carbon dioxide	+	+
Refrigerating brines	+	+
Copper sulphate, saturated	+	+
Magnesium sulphate, saturated	+	+
Lactic acid 3 %	–	O
Lactic acid 2 %	+	O
Mineral oil	+	+
Caustic soda 5 %	+	+
Caustic soda 25 %	+	+
Caustic soda 50 %	+	+
Sodium bisulphate, saturated	+	+
Sodium carbonate 20 %	+	+
Sodium chloride (salt solution 10 %)	+	+

Chemical	CE 44	CM 74/CE 79
Sodium phosphate, saturated	+	+
Sodium sulphate, saturated	+	+
Oleic acid–Oxalic acid, saturated	–	+
P3 solution	O	+
Paraffin oil, pure	+	+
Phosphoric acid 2 %	+	+
Phosphoric acid 10 %	–	O
Propylene glycol, pure	+	+
Nitric acid 50 %	–	–
Nitric acid 25 %	–	–
Nitric acid 10 %	–	O
Nitric acid 5 %	–	+
Hydrochloric acid 2 %	+	+
Hydrochloric acid 20 %	–	O
Hydrochloric acid 5 %	–	+
Sulphuric acid 50 %	–	–
Sulphuric acid 5 %	–	+
Sulphuric acid 2 %	O	+
Sodium carbonate 20 %	+	+
Cooking oils, pure	+	+
Spindle oil	+	+
Turpentine	+	–
White spirit, pure	+	–
Water vapour 100 °C	–	O
Water	+	+
Citric acid 10 %	–	+
Citric acid 2 %	O	+

Additional information

The technical data given in the chemical resis-tance table is based on lab test results that are more or less applicable to practical on-site conditions. The material was tested for 1000 hours with a standing medium. In the case of moving chemicals (liquids) and temperatures above +20 °C, a lower resistance is to be expected. If the resistance to a test medium is "limited", this means that the respective product is resistant to this test medium as long as it is only exposed occasionally and for a short time. In such cases of occasional contact with this chemical, it is important to immediately or regularly clean and dry the point of contact in order to ensure long-term reliable bonding or grouting. Discoloration, however, may occur and also remain.

Key to resistance symbols

– = not resistant
O = short-term exposure of 24 h will not damage the test piece
\+ = resistant; even in the case of constant exposure of 4 weeks, the test piece will not be damaged

Henkel AG & Co. KGaA – Bautechnik
Henkelstraße 67 · D-40589 Düsseldorf
Telefon +49 211 797 0 • Telefax +49 211 798 2148
Internet: www.ceresit.com · E-Mail: ceresit.bautechnik@henkel.com

Order-No.

503

Sopro PUK 503

PU adhesive

Light-coloured, waterproof, rapid-set, solvent-free, two-component reaction resin adhesive, meeting R2 T requirements to DIN EN 12004, for installation of ceramics and natural stone units.

- **For substrates that are moisture-sensitive and subject to significant deformation**
- **Particularly suitable for application to metal and wood-based products**
- **High flexibility and adhesive strength**
- **For use in shipbuilding**
- **For indoor and outdoor use**

Use	With earthenware, stoneware and fully vitrified stoneware tiles, ceramic split tiles and split tile fittings, clinker floor tiles, glass and sintered glass mosaic, calibrated natural and cast stone units, resin-bonded tiles. Kitchen worktops, prefabricated building interiors, metal stairs, lifts, wall and floor heating systems of sheet steel construction, in shipbuilding.
Suitable substrates	Moisture-sensitive substrates such as wood-based and gypsum products; concrete*, lightweight concrete*, aerated concrete*, cement render*, eminently hydraulic lime render*, renders made from masonry cement*, plane, flush-jointed masonry* (no composite masonry), cement screeds*, gypsum, gypsum plasterboard and gypsum fibreboard drywall panels, gypsum planks, fibre-cement board, decorative high-pressure laminate, calcium sulphate and magnesium oxy-chloride (magnesite) screeds, mastic asphalt screeds, cement-bonded and resin-bonded particle-board, existing tile, terrazzo, natural and cast stone coverings, existing PVC finishes, polyester (GRP), parquet flooring, plywood, metal surfaces.
Composition	Polyurethane, two-component
Mixing ratio	(For partial quantities) A : B = 8 : 1 parts by weight
Working life	Approx. 45 minutes
Walkable/groutable	After approx. 12 hours or after curing of PU adhesive
Loadable	After approx. 1 day; in commercial facilities after approx. 2 days, in areas subject to high wet exposure after approx. 2 days, for underwater applications after approx. 2 days, in conjunction with wall and floor heating after approx. 2 days
Application temperature	From +10 °C to +25 °C (substrate, air, material)
Wall and floor heating	Suitable
Coverage	Approx. 1.5 kg/m² per mm coat thickness
Shelf life	Approx. 12 months, subject to storage on pallet in dry conditions in original unopened containers
Packaging	6 kg bucket (combi pack)

* Specified substrates shall be pretreated with Sopro EPG 522 epoxy primer and blinded to excess with Sopro QS 507 fine silica sand or Sopro QS 511 coarse silica sand.

EN 23.12.16 · DE 31.10.16 · Subject to change without notice

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Substrate preparation

Substrate shall be dry, clean, solid, strong, of adequate dimensional stability and free from any adhesion-impairing substances (e.g. grease, wax, rust and wood preservative). Corrosion-prone metal surfaces shall be pretreated with rust-inhibiting primer.
Particleboard/chipboard shall be laid in a staggered pattern, with glued tongued and grooved joints and additionally screwed down; it shall be rigid and dry (≤ 8 %).
Gypsum plasterwork shall be dry (≤ 1 %), single-coat and shall not be felt-floated or smoothed.
Fill any existing cracks in screed with structurally bonding Sopro GH 564 casting resin. Calcium sulphate screeds shall exhibit a moisture content ≤ 0.5% CM and be adequately ground, vacuum-cleaned and primed. Cement screeds shall be 28 days old and dry.
All relevant standards, guidelines and recommendations shall apply; workmanship shall comply with good practice.
Following substrates shall be pretreated with Sopro EPG 522 epoxy primer and blinded to excess with Sopro QS 507 fine silica sand or Sopro QS 511 coarse silica sand:
concrete, lightweight concrete, aerated concrete, cement render, eminently hydraulic lime render, renders made from masonry cement, plane, flush-jointed masonry (no composite masonry), cement screeds.

Application

Two components are supplied in correct mixing proportions (5.33 kg Component A + 0.67 kg Component B).
Pierce (flat) container with hardener several times using awl or screwdriver to ensure that all hardener runs out.
Allow Component B to run into Component A and mix for min. 3 minutes to homogeneous, streak- and bubble-free consistency using mixing attachment at slow speed (7 rps). Transfer prepared mix to clean container and thoroughly restir! Do not apply material directly from original supplied container!
Sopro PUK 503 PU adhesive can be applied after transfer and restirring. Work in stages, spreading evenly over substrate to allow heat of reaction to dissipate. Apply thin coat, pressing down heavily, with finishing trowel, then apply combed bed with suitable notched trowel (tool angle 45°–60°).
Place covering materials into adhesive bed, press down, push into position and align.

Specified times

Apply for normal temperature range of +23 °C and 50 % relative humidity; higher temperatures shorten and lower temperatures lengthen these times.

Tools / tool cleaning

Mixing attachment, notched trowel with suitable serration: 3–4 mm for tesserae, 4–6 mm for wall and floor tiles, 6–8 mm for heavy ceramics and profiled tiles;
clean tools with universal thinner while material is still fresh, mechanical removal required when cured

Test certificates

Kiwa Bautest Dresden:
– R2 T to DIN EN 12004

BG Verkehr (institution for statutory accident insurance and prevention for transport and traffic):
– Approval for shipbuilding in Sopro System 2.3 (wall), MED approval no. 118.224, USCG approval no. 164.112/EC0736/118.224. Wet-applied quantity Sopro PUK 503: max. 2,560 g/m².
Other components in Sopro System 2.3: fully vitrified stoneware tile (thickness 5 mm), Sopro Brillant® water-repellent tile grout. Joints ≤ 4 mm.
– Approval for shipbuilding in Sopro System 3.4 (floor), MED approval no. 124.099, USCG approval no. 164.117/EC0736/124.099. Wet-applied quantity Sopro PUK 503: max. 2,560 g/m².
Other components in Sopro System 3.4: fully vitrified stoneware tile (thickness 5 mm), Sopro Brillant® water-repellent tile grout. Joints ≤ 4 mm.
Please observe technical product information for relevant system components.

Safety precautions

All standard precautions for the handling of construction materials/chemicals shall be taken.

Labelling in accordance with Regulation (EC) No 1272/2008 (CLP)

Component A
Exempt from labelling requirements.

Component B
GHS07, GHS08

Signal word: Danger
Hazard-determining components: diphenylmethane diisocyanate, homologues, isomers.

Hazard statements: H315 Causes skin irritation. **H317** May cause an allergic skin reaction. **H319** Causes serious eye irritation. **H332** Harmful if inhaled. **H334** May cause allergy or asthma symptoms or breathing difficulties if inhaled. **H335** May cause respiratory irritation. **H351** Suspected of causing cancer. **H373** May cause damage to organs through prolonged or repeated exposure.

Supplemental hazard information: EUH204 Contains isocyanates. May produce an allergic reaction.

Precautionary statements: P201 Obtain special instructions before use. **P280** Wear protective gloves/protective clothing/eye protection/face protection. **P302+P352** IF ON SKIN: Wash with plenty of water and soap. **P333+P313** If skin irritation or rash occurs: Get medical advice/attention. **P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **P337+P313** If eye irritation persists: Get medical advice/attention. **P304+P341** IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. **P342+P311** If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Contains isocyanates. Manufacturer's instructions shall be observed.

For trade applicators only!

German Water Hazard Class (WGK): 1, slightly hazardous to water.

GISCODE (German hazardous substances classification): RU1 · Solvent-free polyurethane laying materials

CE marking

CE
2007

Sopro
Sopro Bauchemie GmbH
Biebricher Straße 74 – 65203 Wiesbaden (Germany)
www.sopro.com

04
CPR-DE3/0503.1.eng
EN 12004:2007 + A1:2012
Sopro PUK 503
Improved reaction resin adhesive for tiling internal and external floors and walls

Reaction to fire	class E
Bond strength as: Initial shear adhesion strength	 ≥ 2.0 N/mm²
Durability for: Shear adhesion strength after water immersion Shear adhesion strength after thermal shock	 ≥ 2.0 N/mm² ≥ 2.0 N/mm²
Release of dangerous substances	see SDS

Project Counselling
Service-Hotline
Fon +49 611 1707-170
Fax +49 611 1707-136
Mail objektberatung@sopro.com

Technical Counselling Service
Service-Hotline
Fon +49 611 1707-111
Fax +49 611 1707-280
Mail anwendungstechnik@sopro.com

North Germany Sales
Sopro Bauchemie GmbH
Lienener Straße 89
D-49525 Lengerich
Fon +49 5481 31-310
Fon +49 5481 31-314
Fax +49 5481 31-414
Mail verkauf.nord@sopro.com

East Germany Sales
Sopro Bauchemie GmbH
Zielitzstraße 4
D-14822 Alt Bork
Fon +49 3384 5 476-90
Fon +49 3384 5 476-93
Fax +49 3384 5 476-92
Mail verkauf.ost@sopro.com

South Germany Sales
Sopro Bauchemie GmbH
PO Box 42 01 52
D-65102 Wiesbaden
Fon +49 611 1707-252
Fax +49 611 1707-250

Mail verkauf.sued@sopro.com

Export Sales
Sopro Bauchemie GmbH
PO Box 420152
D-65102 Wiesbaden
Fon +49 611-1707-239
Fax +49 611-1707-240
Mail international@sopro.com

Switzerland Sales
Sopro Bauchemie GmbH
Bierigutstrasse 2
CH-3608 Thun
Fon +41 33 334 00 40
Fax +41 33 334 00 41
Mail info@sopro.ch

Austria Sales
Sopro Bauchemie GmbH
Lagerstraße 7
A-4481 Asten
Fon +43 7224 6 71 41-0
Fax +43 7224 6 71 81
Mail marketing@sopro.at

www.sopro.com