

Epoxol® 2874

High-strength, two-component solvent-free transparent epoxy system



Description

Premium two-component solvent-free transparent epoxy system, ideal for the creation of interior decorative stone carpets and for casting or embedding various items

Fields of application

- Decorative stone carpets for interior floors of shops, hotels, offices, showrooms, stairs, etc.
- Casting and embedding of items, electrical equipment, etc.
- As a decorative coat on benches, tables, bars
- Craftwork, creation of decorative souvenirs, etc.



Properties - Advantages

- Ideal binding resin for quartz sand of various grain sizes
- High flexural and compressive strength, as well as abrasion and scratch resistance
- Excellent adhesion on various substrates
- Increased resistance to chemicals and yellowing
- Free of solvents, aggregates, and fillers
- Classified as SR-C60-F50-RWA20-SH50-B2,0-IR4 acc. to EN 13813

Appearance

Transparent, amber

Packing

Sets (A+B) of 15,8kg, 3,95kg, 1kg and 0,3kg

Certificates – Test reports

- CE certification acc. to EN 13813
Classified as a synthetic resin screed material SR-C60-F50-RWA20-SH50-B2,0-IR4
- Test report by the external independent quality control laboratory NIISM (No. 824 & 824-1)
- Complies with the V.O.C. content requirements acc. to the E.U. Directive 2004/42/CE



Technical characteristics

Mixing ratio A:B (by weight)	100:58
Density (EN ISO 2811-1)	1,08kg/L (±0,05)
Solids content by weight	100%
Solids content by volume	100%
Gloss (60°)	>100
Abrasion resistance (Taber Test, CS 10/1000/1000, ASTM D4060)	72mg
Wear resistance (Rolling wheel, EN 13982-7)	Class RWA20
Adhesion strength (EN 13892-8)	≥3N/mm ²
Hardness Shore D (ASTM D2240)	83
Surface hardness SH (EN 13892-6)	67,5MPa
Impact resistance (EN ISO 6272-1)	8,5Nm
Scratch hardness (Sclerometer Test - Elcometer 3092)	9N
Compressive strength (EN 13892-2)	Class C60
Flexural strength (EN 13892-2)	Class F50
Modulus of elasticity (EN 13412)	15GPa
Liquid water permeability (EN 1062-3)	<0,01kg/m ² h ^{0,5}
Resistance to temperatures (dry loading)	-30°C min. / +80°C max.
Consumption: • ~1kg/m ² per mm of thickness (for the pure resin) • 1kg/m ² Epoxol® 2874 + 6kg/m ² of coloured quartz sand 0,8-1,2mm (indicative for stone carpet of thickness 4mm)	

Application conditions

Substrate moisture content	<4%
Relative air humidity (RH)	<65%
Application temperature (ambient - substrate)	+12°C min. / +40°C max.

Curing details

Pot life (+25°C)	35-45 minutes
Drying time (+25°C)	~ 4 hours
Full hardening	~ 7 days

* Low temperatures and high humidity during application and/or curing prolong the above times, while high temperatures reduce them

Appropriate primers on horizontal concrete substate (prior to the stone carpet)

	Primer	Description - Details
Solvent-free	Epoxol® Primer SF	Two-component, solvent-free epoxy primer for flooring applications
	Epoxol® Primer SF-P	Two-component, solvent-free epoxy primer, ideal in cases of substrates with increased porosity
	Neopox® Primer WS	Two-component, solvent-free epoxy primer for wet surfaces (without ponding water or rising moisture)
	Neopox® Primer AY	Two-component, solvent-free anti-osmotic epoxy primer, for floors with rising moisture
Water-based	Acqua Primer	Two-component, water-based epoxy primer
Solvent-based	Epoxol® Primer	Two-component, solvent-based epoxy primer

Instructions for use

Application of a decorative stone carpet on floors

Substrate preparation

The concrete must be min. Grade C20/25, with a tensile strength of $\geq 1,5\text{MPa}$, and allowed to cure for at least 28 days, taking all the necessary maintenance measures during its curing period. The cementitious substrate must be properly prepared mechanically (e.g. grinding, shot blasting, milling etc.) to smooth out the irregularities, achieve an open-textured surface and ensure optimum adhesion.

The surface must be dry and protected from rising moisture, stable, clean and free of dust, grease, oil, etc. Loose friable material must be fully removed by brushing or sanding with a suitable machine and a high suction vacuum cleaner.

The surface must be as smooth and flat as possible, as well as continuous (ie without voids, cracks etc.)

Repairs to the substrate, filling of joints, blowholes/voids and surface leveling must be carried out using appropriate repairing products, such as the pourable epoxy-cement mortar **Epoxol® CM** and the epoxy putty **Epoxol® Putty**, after proper priming. Depending on the substrate conditions, smoothing may be achieved during the application of the stone carpet of **Epoxol® 2874**.

Priming

For the stabilization of the substrate, sealing of pores, as well as for improving the adhesion of the subsequent stone carpet, it is recommended to apply **Acqua Primer** or an alternative appropriate **NEOTEX®** primer (see table), depending on the substrate. In cases of substrates with increased porosity, an additional priming layer may be required.

In order to ensure the adhesion of the stone carpet that follows, especially in case it is applied more than 24 hours after the application of the primer, it is recommended to sparsely broadcast Quartz Sand M-32 (0,1-0,3mm, average grain size 0,26mm) on the still fresh layer of the primer, with an estimated sand consumption of 0,3-0,5kg/m². After drying, any loose grains should be removed with a high suction vacuum cleaner.



Application

Once the primer is dry to overcoat, it is recommended to apply the resin-mortar of **Epoxol® 2874** mixed with coloured quartz sand (e.g. F 0,8-1,2mm or R 1-2mm) in a ratio of 1:6 to 1:10 w/w, depending on the grain size of the aggregates and the desired layer thickness. For quartz sand of grain size 0,8-1,2mm, the minimum recommended layer thickness of the stone carpet is 4mm.

The two components A & B are mixed in the predetermined ratio (10A : 5,8B w/w) and they are mechanically stirred for app. 3 minutes with a low speed stirrer. It is important to stir thoroughly at the bottom of the container, as well as near the sides, so that the hardener (component B) is evenly distributed. The quartz sand is then gradually added in the proposed ratio, under continuous stirring until the mixture becomes homogeneous.

The resin-mortar is, then, poured and applied in one layer on the surface, spreading and pressing it on the substrate by a smooth metal trowel. For the correct and easy application of the stone carpet, it is recommended to use the special non-stick agent **Mineral Oil Light** during the laying, which improves the sliding ability of the trowel, after previously wetting the trowel with it. As soon as the trowel begins to become sticky during the application, it is required to re-use **Mineral Oil Light**. Alternatively, solvent **Neotex® 1021** can be used for that purpose.

Embedding items

The surface must be dry and protected from rising moisture, stable, clean and free of dust, grease, oil, etc. If sealing or/and leveling is required, it is recommended that this is done with **Epoxol® 2874** applied in one thin layer, which will be then sanded down. The items that are to be embedded must be completely dry. Depending on the casting thickness, an appropriate mold should be made prior to the application.

The two components A & B of **Epoxol® 2874** are mixed, as described above and the transparent epoxy system is then poured on the surface and spread by trowel. The application must be made in a thin thickness per layer (ideally up to 6mm depending on the extent of the casting, while it must not exceed 2cm). To eliminate any air entrapment which appears in the form of bubbles in the surface, it is recommended to carefully use a hot air gun, ~5-10 minutes after pouring the resin and while the layer is still fresh.

If a greater thickness of application is desired, the process is repeated, as soon as the previous layer has begun to set. After finishing the application of each layer, the surface must be protected from dust, dirt and humidity.

Special notes

- **Epoxol® 2874** should not be applied under wet conditions, or if wet conditions are expected to prevail during the application or the curing period of the product. Increased humidity may have a negative impact on the adhesion, the film properties and/or the final result (e.g. blurry surface, stickiness)
- The components should not have been stored at very low or very high temperatures, especially before mixing. Mixing and stirring of the mixture should be preferably done in the shade. The stirring of the mixture must be done mechanically and not manually with a rod, etc.
- Excessive stirring of the material should be avoided, in order to mitigate the risk of air entrapment. After stirring the mixture, it is recommended to apply the material shortly in order to avoid the development of high temperatures and potential hardening inside the can
- The substrate temperature must be at least 3°C above dew point to reduce the risk of condensation or blooming on the floor finish
- It is recommended that the use of **Epoxol® 2874** is limited to indoor use only. Due to the nature of the material, its direct and continuous exposure to ultraviolet radiation may cause acceleration of yellowing and/or blurring of the surface, as well as the phenomenon of chalking over time. For exterior stone carpet applications, the use of the transparent aliphatic polyurea system **Neodur® Polyurea** is recommended as a binding resin instead.
- In case that an extended period of time (>36 hours) has passed between successive layers, it is recommended to lightly sand the surface of the previous layer, in order to avoid possible adhesion problems of the next layer

Maintenance instructions for stone carpets

- It is highly recommended to avoid washing the surface (even with water) if at least 7 days have not passed from the application of the stone carpet
- High pressure water jetting should be avoided. If necessary, use water under small pressure.
- In case of minor spills and stains, it is recommended to remove them as soon as possible by using a soft cloth along with warm clean water (temperature <+60°C)
- For the removal of dirt or dust, a soft broom or a vacuum cleaner should be used
- In case of using commercial cleaning products, the use of neutral ones is recommended (pH between 7 and 10). Soaps or all-purpose cleaners containing water-soluble salts or harmful ingredients with high concentration in alkalis or acids should be avoided. Follow the manufacturer's recommendations with respect to the optimum dilution with water. In any case, the first time a commercial cleaning product is used, it is recommended that a trial is made in a small surface area
- It is recommended to regularly use automatic floor cleaning machines with rotating brushes, especially in cases of commercial floors/high traffic

Chemical Resistance Table

Chemical substances (% content)	Contact time with chemicals (+20°C)		
	1 hour	5 hours	24 hours
Phosphoric acid (10%)	B	B	B
Sulphuric acid (10%)	A	A	A
Hydrochloric acid (10%)	A	A	A
Lactic acid (10%)	B	B	B
Nitric acid (10%)	B	C	C
Citric acid (10%)	A	A	A
Sodium hydroxide (10%)	A	A	A
Formaldehyde (10%)	A	A	A
Ammonia (10%)	A	A	A
Chlorine (5%)	A	A	A
Diesel	A	A	A
Gasoline unleaded	A	A	A
Xylene	A	A	A
M.E.K	A	A	A
Alcohol 95 ^o	A	A	A
Saltwater 15%	A	A	A
Engine oil	A	A	A
Wine (red)	A	A	A

Evaluation of resistance

A: Excellent resistance

B: Good resistance (light discolouration)

C: Reduced resistance (intense discolouration)

D: Not recommended

Appearance

Transparent, amber

Packing


Sets (A+B) of 15,8kg, 3,95kg, 1kg and 0,3kg in metal cans

**Cleaning of tools –
Stains removal**

By **Neotex® 1021** immediately after application. In case of hardened stains, by mechanical means



Volatile organic compounds (V.O.C.)	V.O.C. limit acc. to the E.U. Directive 2004/42/CE for this product of category AjSB “Two-Pack reactive performance coatings”: 500g/l (Limit 1.1.2010). V.O.C. content of the ready to use product <500g/l.
UFI code	<i>Component A:</i> 85E0-POV4-R00V-19WY <i>Component B:</i> V820-E06Q-V000-1XWS
Storage stability	2 years, stored in its original sealed packing, protected from frost, humidity and exposure to sunlight

	
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19	
DoP No.: 4950-45	
EN 13813 SR-C60-F50-RWA20-SH50-B2,0-IR4	
Epoxol® 2874	
Synthetic resin screed material for use internally in buildings	
Release of corrosive substances	SR
Compressive strength	C60
Flexural Strength	F50
Wear resistance	RWA20
Hardness	SH50
Bond strength	B2,0
Impact resistance	IR4
Reaction to fire	NPD

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