

Two-component, solvent-free epoxy coating

Description

EPOXYCOAT-VSF is a two-component, solvent-free, colored epoxy system, offering high hardness and abrasion resistance. It is specially designed for highly aggressive chemical environments, being resistant to acids, alkalis, petroleum products, solvents, water, sea water etc.

It is certified with the CE marking and classified as a coating for surface protection of concrete, according to EN 1504-2. Certificate Nr. 2032-CPR-10.11.

Fields of application

EPOXYCOAT-VSF is used as a protective and decorative coating on cement-based substrates, e.g. concrete, plaster, cement-mortars or screeds, as well as on metal surfaces. It is suitable for industrial areas, laboratories, slaughter-houses, canned food factories, wine making factories, gas stations, car repair shops etc.

It is also suitable for food contact surfaces, according to W-347, ISO 8467.

Technical data

Basis:	two-component epoxy resin
Colors:	RAL 7032 (sand grey) other colors by special order
Viscosity:	8,000 ± 500 mPa·s at +23°C
Density:	1.60 kg/l
Mixing ratio (A:B):	77:23 by weight
Pot life:	approx. 40 min at +20°C
Minimum hardening temperature:	+8°C
Walkability:	after 24 h at +23°C
Successive layer:	after 24 h at +23°C

Final strength: after 7 days at +23°C

Abrasion resistance: < 3,000 mg
(EN ISO 5470-1)

Capillary absorption and permeability to water: 0.01 kg/m²·h^{0.5}
(EN 1062-3, requirement of EN 1504-2: w < 0.1)

Resistance to thermal shock (EN 13687-5, rigid systems, at 70°C): No bubbles, cracks or delamination

Pull-off test
≥ 2 N/mm²

Impact resistance: 8 Nm (Class I)
(EN ISO 6272-1)

Adhesion strength by pull-off test (EN 1542): > 3 N/mm² (breaking point of concrete)

Reaction to fire: Euroclass F
(EN 13501-1)

Chemical resistance: see the table on the annex of the technical leaflet

Cleaning of tools:

Tools should be cleaned with SM-12 solvent, immediately after use.

Directions for use

1. Substrate preparation

The surface to be coated should be:

- Dry and stable.
- Free of materials that prevent bonding, e.g. dust, loose particles, grease etc.
- Protected from underneath moisture.

It should also meet the following requirements:

a) Cementitious substrates

Concrete quality: at least C20/25

Cement screed quality: cement content 350 kg/m³

Age: at least 28 days
 Moisture content: less than 4%

24 hours.
 Consumption: 200-300 g/m²/layer.

b) Iron or steel substrates

It should be free of rust or any dirt that prevents bonding.

According to the nature of the substrate, it should be prepared by brushing, grinding, milling, sand blasting, water blasting, shot blasting etc. Then, the surface should be cleaned from dust with a high-suction vacuum cleaner.

2. Priming

a) Cementitious substrates

Cement-based surfaces are primed with DUROFLOOR-BI epoxy impregnation in one layer. Consumption of DUROFLOOR-BI: approx. 150 g/m².

b) Metal substrates

Metal substrates are primed with EPOXYCOAT-AC anti-corrosive epoxy coating in 2 layers.
 Consumption: 150-200 g/m²/layer.

3. Mixing of components

Components A (resin) and B (hardener) are packed in two separate containers, at the correct, predetermined mixing ratio by weight. The whole quantity of component B is added into component A. The two components should be mixed for about 5 minutes with a low-speed mixer (300 rpm). It is important to stir the mixture thoroughly near the sides and bottom of the container, in order to achieve uniform dispersion of the hardener.

4. Application - Consumption

EPOXYCOAT-VSF should be applied within 24 hours from priming and after the primer has dried.

EPOXYCOAT-VSF is used as it is. It is applied by roller, brush or spraying in a minimum of 2 layers. The second layer is applied after the first one has dried, but within

Packaging

EPOXYCOAT-VSF is supplied in packages (A+B) of 2 kg and 10 kg, with components A and B at a fixed ratio by weight.

Shelf-life - Storage

12 months from production date, if stored in original sealed packaging, in areas protected from humidity and direct sun exposure. Recommended storage temperature between +5°C and +35°C.

Remarks

- Working time of epoxy materials is affected by the ambient temperature. The ideal temperature of application is between +15°C and +25°C, for which the product obtains optimal workability and curing time. Room temperature below +15°C will expand the curing time, while temperatures above +30°C will reduce it. It is recommended to mildly preheat the product in the winter, and store the product in a cool room before application in the summer.
- Bonding between successive layers may be severely affected by moisture or dirt.
- Epoxy layers should be protected from moisture for 4-6 hours after application. Moisture may whiten the surface or/and make it sticky. It may also disturb hardening. Faded or sticky layers in parts of the surface should be removed by grinding or milling and laid again.
- In case the time between the application of successive layers is longer than predicted, or in case old floors are going to be overlaid, the surface should be thoroughly cleaned and ground, before applying the new layer.

- After hardening, EPOXYCOAT-VSF is totally safe for health.
- Before application, consult the directions for safe use and precautions written on the package.

Volatile Organic Compounds (VOCs)

According to the Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory j, type SB is 500 g/l (2010) for the ready-to-use product. The ready-to-use product EPOXYCOAT-VSF contains a maximum of 500 g/l VOC.



2032

ISOMAT S.A.

17th km Thessaloniki – Ag. Athanasios
P.O. BOX 1043, 570 03 Ag. Athanasios,
Greece

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EN 1504-2

Surface protection products

Coating

Abrasion resistance: < 3000 mg

Capillary absorption: $w < 0.1 \text{ kg/m}^2 \cdot \text{h}^{0.5}$

Resistance to thermal shock: $\geq 2.0 \text{ N/mm}^2$

Impact resistance: Class I

Adhesion: $\geq 3.0 \text{ N/mm}^2$

Reaction to fire: Euroclass F

Dangerous substances comply with 5.4

Chemical Resistance
ANNEX

Test group*	T	1d	3d	7d	28d	90d	180d	360d
PG 1 (Petrol)	20°C	A	A	A	A	X	X	X
PG 4 (all hydrocarbons w/o Benzol, unused engine and lubricating oils, jet fuels, heating fuel, Diesel; incl. PG 2, 3))	20°C	A	A	A	A	X	X	X
PG 4a (Benzol)	20°C	A	A	A	A	A	A	X
PG 5 (Alcohols with max. 48% Methanol, Glycol Ether))	20°C	A	A	A	X	X	X	X
PG 5a (all Alcohols and Glycol Ether)	20°C	A	A	A	X	X	X	K
PG 6a (Aliphatic and aromatic halogen hydrocarbons)	20°C	K						
PG 7 (Esters and Ketones)	20°C	A	A	A	X	K		
PG 8 ((aqueous solutions of Aliphatic Aldehyds up to 40%))	20°C	A	A	A	X	X	X	X
PG 9 (aqueous solutions of organic acids up to 10%)	20°C	A	A	A	X	X	X	K
PG 9a (organic acids (carbon acids, except formic acid) and the respective salts (in aqueous solutions))	20°C	A	A	K				
PG 10 (Inorganic acids up to 20%)	20°C	A	A	A	X	X	X	X
PG 11 (Inorganic alkalis)	20°C	A	A	A	A	A	A	A
PG 15 (cyclic and acyclic Ethers)	20°C	A	A	A	K			
PG 15a (acyclic Ethers)	20°C	A	A	A	X	X	X	X
Test medium	T	1d	3d	7d	28d	90d	180d	360d
Ethanol 96%	20°C	X	X	X	X	X	K	
Ammonia 10%	20°C	A	A	A	X	X	X	X
Heating fuel	20°C	A	A	A	A	A	A	A
NaOH 50%	20°C	A	A	A	A	A	A	A
Nitric acid 20%	20°C	A	A	X	X	K		
Hydrochloric acid 37%	20°C	A	A	A	X	X	K	
Sulphuric acid 50%	20°C	A	A	A	X	X	X	X
Sulphuric acid 80%	20°C	A	X	X	X	X	X	X

A: Resistant

X: Resistant but with discoloration

K: Not resistant

*according to EN 13529

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BUILDING CHEMICALS AND MORTARS

MAIN OFFICES - FACTORY:
 17th km Thessaloniki - Ag. Athanasios Road,
 P.O. BOX 1043, 570 03 Ag. Athanasios, Greece,
 Tel.: +30 2310 576 000, Fax: +30 2310 722 475

www.isomat.eu e-mail: info@isomat.eu

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