

C-Guard® system for concrete flooring

C-Guard EP 271 W

Two-component water-based vapour-permeable epoxy paint

Usage and Properties

C-Guard® EP 271 W is a two-component water-based vapour-permeable epoxy paint for concrete.

The coating has very good UV resistance for an epoxy system. Prolonged exposure to UV radiation can cause the surface to chalk over time. It is used as a wall coating in tunnels (salt-resistant and easy to clean), and as a floor coating in hospitals, schools, nurseries, shelters, power plants, dairies, slaughterhouses, production halls, garages and basements. Its high temperature resistance (130°C) makes it particularly suitable for use around ovens in bakeries, etc.

Highlights

- Good chemical and mechanical resistance
- Non slippery when wet
- Water vapour permeable
- Easy maintenance and a professional surface appearance.
- Fast and low-cost solution with optimal characteristics
- Very good UV resistance for an epoxy system and high thermal resistance (130°C)

Field of application

- Protection of concrete floors, walls and screeds exposed to mechanical and chemical loads
- Two-coat floor system for workshops, garages, warehouses, etc.
- Excellent adhesion to damp substrates (up to 6% CM) and high water vapour permeability

Technical properties

Property	Value and conditions
Packaging — Comp. A	1 kg 5 kg 20 kg
Packaging — Comp. B	0.2 kg 1 kg 4 kg
Mixing Ratio — Parts by weight	A : B = 100 : 20
Mixing Ratio — Parts by volume	A : B = 100 : 26
Pot life (max. allowed)	12 °C: 80 minutes 20 °C: 120 minutes 25 °C: 40 minutes
Processing	Minimum 12°C (room- and floor-temperature)
Processing — Humidity	Minimum 30% and maximum 80% relative humidity
Curing Time (Accessibility)	12 °C: 16 - 24 h 20 °C: 8 - 12 h 25 °C: 5 - 6 h
Curing	4 days at 20 °C for mechanical load
Curing	10 days at 20 °C for chemical resistance

Property	Value and conditions
Further Coatings	After 24 hours at 20 °C
Further Coatings	but no longer than 72 hours at 20 °C
Consumption — Smooth surface	cca 0.15-0.20 kg/m ²
Consumption — Rough surface	cca 0.25-0.40 kg/m ²
Shade	Matt, all shades from the RAL and NCS colour charts.
Solid Contents	67 ± 2 mass%; 53 ± 2 vol%
Specific Weight — A + B	1.42 ± 0.1 g/ml DIN EN ISO 2811-2 20°C
VOC Content	IIA(j), 140 g/l (2010); product contains: max. 0 g/l

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances out of our control.

Preparation of substrate

The surface (minimum 12°C) must be dry and clean, free of dust and grease. The substrate must have adequate tensile and compressive strength and must not be friable. Contaminants that prevent adhesion, such as grease, oil or paint residues, must be removed using suitable methods; the preferred method is high-pressure washing at 100–150 bar. The substrate must be sufficiently strong for its intended use.

Floor surfaces must be ground before application. A disc with diamond segments or a shot-blasting machine is suitable. The surface strength must be at least 1.5 N/mm². Moisture ingress from below must be permanently excluded.

For further advice, contact Chemcolor technical services.

Preparation of material

Before use, warm both containers to room temperature (20°C, minimum 12°C). The mixing ratio is 10:2 by weight, and the pot life is approximately 120 minutes (20°C under normal working conditions). Do not apply the coating after the pot life has expired, as adhesion, drying or gloss problems may occur.

Add component B to component A in the specified ratio and mix thoroughly with an electric mixer for 2–3 minutes at low speed (300–400 rpm). To avoid mixing errors, pour the mixture into a clean container and briefly mix again.

Application of material

Universal use:

1. Primer: C-Guard® EP 271 W with 10% added water
2. Filling and levelling uneven areas: C-Guard® EP 271 W with fine fillers
3. Finishing coat: C-Guard® EP 271 W
4. Self-levelling coating up to 2 mm thick: C-Guard® EP 271 W with 0.1–0.3 mm sand (1:1 mix)
5. Epoxy concrete: C-Guard® EP 271 W with sand, cement and water

C-Guard® EP 271 W can be applied by brush (synthetic bristles only), roller (suitable for water-based two-component epoxy paints) or spraying. Mixtures containing fillers are applied with a notched trowel or a metal or plastic float. Adjust the viscosity to suit the application method.

Air and substrate temperatures must not be below 12°C, and relative humidity must not exceed 80%. The difference between air, paint and substrate temperatures must be less than 3°C to avoid disrupting drying. Dew-point conditions can cause poor adhesion, drying problems or local surface spotting. Drying times refer to 20°C; lower temperatures extend and higher temperatures shorten drying. When applying in basements and poorly ventilated spaces, provide sufficient ventilation, as evaporated moisture extends drying times and can cause defects in the film surface.

Consumption depends on the type, porosity and roughness of the substrate, surface preparation, application losses, etc.

Cleaning of tools and surfaces after use

Clean tools and working equipment immediately after use with water and soap. Later, clean with acetone or nitro thinner, or mechanically.

Storage of material

The product has a shelf life of 12 months from the date of manufacture when stored in tightly closed, undamaged original packaging in a dry place at +10°C to +25°C.

Remarks

All technical data stated in this technical data sheet are based on laboratory tests. Actual data may vary depending on application conditions beyond our control.

Do not apply epoxy materials to constantly damp surfaces. Protect freshly applied epoxy material from moisture, condensation and water for at least 24 hours. For outdoor applications, apply when the substrate temperature is falling. Application to a warming substrate can cause pinholes in the film due to rising air. Under certain conditions, high temperatures from underfloor heating or the surroundings can affect the surface appearance. If the air and substrate need heating, do not use heaters that release large quantities of CO₂ or moisture (gas, paraffin or other fossil-fuel heaters), as they can damage the floor surface. Use only electric warm-air heaters.

If component B crystallises, heat it to approximately 40°C to dissolve the crystals. The material can then be used normally. Crystallisation is a normal occurrence in epoxy resins.

Safety information

- Provide forced ventilation when applying in enclosed, unventilated spaces. Do not apply the material near open flames or welding.
- Wear protective equipment during work, including gloves, goggles and other appropriate equipment.
- Before eating and after work, change contaminated clothing and wash your hands.
- Observe the safety warnings on the packaging label.

Important notice

- Both components must acclimatise to the working environment for at least 24 hours before use.
- The same colour can differ in shade between different product types. Take this into account where colour uniformity is important. Always continue adjacent work areas with the same product batch (check the batch number on the label) and the same product type. For subsequent deliveries to the same site, include the batch number from the previous order as well as the colour reference.
- Application at higher relative humidity can result in an unevenly coloured surface. Remove excess moisture produced by evaporation of water from the coating. Ensure adequate drying and removal of moisture from the air.
- Transport is permitted only at temperatures above 5°C; otherwise, the vehicle must be heated.
- Dispose of uncured or unbound material in accordance with applicable regulations. Fully cured material may be disposed of at municipal landfill sites in accordance with applicable regulations.
- Detailed safety precautions and physical, toxicological and ecological product data are given in the safety data sheet, available from Chemcolor sales services or at www.chemcolor.si.

The harmonised European standard EN 13813, "Screed material and floor screeds – Screed materials – Properties and requirements", specifies the requirements for materials used in indoor floor construction.

	
Chemcolor Sevnica d.o.o. Dolnje Brezovo 35 8290 Sevnica-SLO	
EN 13813-SR-B2.0-AR0.5-IR36	
Synthetic Resin Screed Mortar/ - Coatings for interior areas, build-up according to product information	
Fire behaviour:	Efl
Release of corrosive substances:	SR
Water permeability:	NPD
Abrasion resistance according to BCA:	AR 0.5
Adhesive tensile strength:	B 2.0
Resistance to impact:	IR 36
Subsonic noise:	NPD
Sound absorption:	NPD
Thermal insulation:	NPD
Chemical resistance:	NPD

NPD = No Performance Determined

This information is based on our experience and careful research. Site conditions and knowledge of the work influence application quality. Successful application depends on professional assessment of the substrate and practical experience in selecting the appropriate product. Please also follow the recommendations of the finishing-coat manufacturer and the safety data sheet for this product.