

C-Guard® system for concrete flooring

C-Guard EP 385 W

Monolithic ceramic floor

Clear component A and tinted component B · 9.8 : 1.2 by weight

Usage and Properties

C-Guard® EP 385 W is a two-component, self-levelling, water-vapour-permeable, matt coloured coating for concrete floors.

C-Guard® EP 385 W is used mainly on cement-bound substrates exposed to heavy mechanical and chemical loads and lacking adequate waterproofing, including warehouses, production areas, garages and shops. It can form non-slip floors in dairies, bakeries, slaughterhouses and beverage factories. Its high temperature resistance (130°C) makes it particularly suitable around bakery ovens. The coating has very good UV resistance for an epoxy system. Prolonged exposure to UV radiation can cause the surface to chalk over time.

Highlights

- Good chemical resistance to weak bases, water, petrol and motor oils
- High strength, elasticity and mechanical resistance
- Water vapour permeable
- Excellent temperature resistance (up to 130°C)
- Excellent adhesion to concrete substrates

Field of application

- Chemical and mechanical protection of concrete flooring and screeds
- Final layer for garages, warehouses, production halls
- Great adhesion on damp surfaces (6.5% CM) and high water vapour permeability

Technical properties

Property	Value and conditions
Packaging — Comp. A	9.8 kg 19.6 kg
Packaging — Comp. B	1.2 kg 2.4 kg
Mixing Ratio — Parts by weight	A : B = 9.8 : 1.2
Mixing Ratio — Parts by volume	A : B = 80 : 20
Pot life	15 °C: 60 minutes 20 °C: 45 minutes 25 °C: 30 minutes
Processing	Minimum 12°C (room- and floor-temperature)
Processing — Humidity	Minimum 30 % and maximum 85 % RH
Curing Time (Accessibility)	12 °C: 30 - 36 h 20 °C: 20 -24 h 25 °C: 16 -20 h
Curing	5 days at 20 °C for mechanical load

Property	Value and conditions
Curing	14 days at 20 °C for chemical resistance
Further Coatings	After 24 hours at 20 °C
Further Coatings	but no longer than 72 hours at 20 °C
Consumption — Smooth surface	cca 3 kg/m ²
Shade	RAL or NCS colour charts, matt finish
Specific Weight — Comp. A+B	1.92 ± 0.1 · g/ml · DIN EN ISO 2811-2 (20 °C)
Solid Contents	85 ± 2 · weight-%
Tensile Strength	5 · N/mm ² · DIN EN 196/1
Compressive Strength	35 · N/mm ² · DIN EN 196/1
Bond Strength	> 1.5 · N/mm ² · DIN EN 1542
Shore-Hardness D	82 · after 14 days · DIN 53505
VOC Content	IIA(j), 140 g/l (2010); product contains: max. 2 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 substrate (min 12°C) to be coated has to be levelled, dry and free of dust, has to have adequate tensile and compressive strength and be free from weakly-bonded components or surfaces. Contaminants that decrease adhesion, such as grease, oil and paint residues must be removed.

Concrete substrates should be prepared mechanically using shot blasting or grinding to remove cement laitance and achieve a profiled open textured surface. Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed. All dust, loose and friable material must be completely removed by vacuum cleaner from all surfaces before application of the product. The substrate must have adequately strength for the intended use.

The surface strength must be at least 1.5 N/mm². Dry, light-grey concrete below 4.5% CM should present no adhesion or stability problems. Occasional moisture in the concrete, for example after heavy rainfall, can evaporate through the vapour-permeable flooring. Persistent moisture problems must be remedied before coating. Contact Chemcolor technical service for further advice.

Preparation of material

Before the use we heat up both vessels to room temperature (preferably 20°C, minimum 15°C). Mixing ratio is 9.8:1.2 (weight), pot life is approximately 45 min (20°C and normal working conditions). Do not apply after the pot life has expired, as this may cause adhesion, drying or gloss problems.

Mix comp. B – hardener into the comp. A – resin in exact ratio and blend for at least 2 - 3 minutes with a slow speed mixer (300 - 400 rpm). To avoid mixing errors it is recommended to empty the resin/hardener-mixture into a clean container and mix briefly once again.

Application of material

Primer: Use C-Guard® EP 270 W diluted with 20% water.

Levelling: Fill C-Guard® EP 270 W with quartz flour and sand and apply with a spatula. Greater thickness significantly extends drying time. Alternatively, dilute C-Guard® EP 385 W with up to 10% water and apply with a notched trowel, metal or plastic float, or roller.

Final coat: Dilute C-Guard® EP 385 W with a maximum of 1-2% water and apply with a notched trowel or a metal or plastic float.

Floor and air temperature must not be below 12°C, relative humidity must not be above 85%. The difference between air, coating and substrate temperatures must be less than 3°C so the curing will not be disturbed. If a dew-point situation occurs this may affect adhesion, curing and local spotting may occur. Curing times are measured at 20 °C, lower temperature will increase and higher

temperature will decrease the curing and processing time. At jobs in bad ventilated areas, artificial ventilation must be installed to take away excess of water from coating. Too much humidity prolongs drying and can cause imperfections on film surface.

Consumption is dependent on the type, porosity and roughness of substrate, application method, etc...

Chemical resistance

Initial hardness: 82 Shore D

Chemical	Hardness Shore D (1 week exposure)	Hardness Shore D (24 h later)
Water	82	82
Ethanol	48	82
Toluene	80	82
Chlorinated hydrocarbons	72	75
Diesel	80	82
NaOH 10%	75	80
Acetic acid 10%	32	40
Sulphuric acid 70%	64	68

Cleaning of tools and surfaces after use

Clean tools and equipment immediately after use with soapy water; later, use acetone or nitro thinner, or remove mechanically.

Storage of material

Shelf life is 12 months from production in tightly sealed, undamaged original packaging stored dry at +10°C to +25°C.

Remarks

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

Do not apply epoxy materials to constantly damp surfaces. Protect fresh epoxy from moisture, condensation and water for at least 24 hours. Outdoors, apply while substrate temperature is falling; a warming substrate may cause pinholes as air rises. Under certain conditions, high temperatures from underfloor heating or the surroundings may affect the surface appearance. If heating is required, do not use heaters releasing large amounts of CO₂ or moisture (gas, paraffin or other fossil-fuel heaters), as they may damage the flooring. Use only electric heaters.

In the case of crystallization of component B, material must be heated up to approximately 40°C and dissolve the crystals. Material is after this normally usable. Crystallization is common in epoxy material.

Safety information

- Provide forced ventilation when applying the material in enclosed, unventilated spaces. Do not apply near open flames or welding.
- Wear protective gloves, goggles and clothes when mixing or using
- Before eating and after work change contaminated clothes and thoroughly wash your hands.
- Read thoroughly all Material Safety Data Sheets (MSDS) and follow product labels and warnings.

Important notice

Both components must acclimatise in the working environment for at least 24 hours before use.

The same colour may differ in shade between product types. Where colour uniformity matters, use the same product type and production batch on adjoining areas; check the batch number on the label. For later deliveries to the same project, state both the colour and the batch number from the earlier order.

- Transport must be done only at temperatures higher than 5°C, otherwise vehicle must be heated
- Dispose of uncured or unbound material in accordance with applicable law. Fully cured material may be disposed of at municipal landfills in accordance with applicable law.
- For information and advice on the safe handling, storage and disposal of chemical products use the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data and is available on www.chemcolor.si or at Chemcolor sales services.

The harmonized European Standard EN 13813 "Screed material and floor screeds - Screed materials - Properties and requirements" specifies requirements for screed materials for use in floor construction internally.

	
Chemcolor Sevnica d.o.o. Dolnje Brezovo 35 8290 Sevnica-SLO	
EN 13813-SR-B2.0-AR0.5-IR19	
Synthetic Resin Screed Mortar/ - Coatings for interior areas, build-up according to product information	
Fire behaviour:	Bfl-s1
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 19
Subsonic noise:	NPD
Sound absorption:	NPD
Thermal insulation:	NPD
Chemical resistance:	NPD

NPD = No Performance Determined

These data are based on our experience and careful research. Site conditions and workmanship affect application quality. Successful results depend on professional assessment of the substrate and practical experience in selecting the appropriate product. Please also follow the finishing-coating manufacturer's recommendations and the safety data sheet for this product.