

C-Guard® system for concrete flooring

C-Guard PU 220 W

Two-component polyurethane coating for exterior and interior concrete surfaces

Usage and Properties

C-Guard® PU 220 W is a two-component polyurethane coating for concrete.

C-Guard® PU 220 W is used as a wall or floor coating in hospitals, schools, kindergartens, shelters, power stations, dairies, slaughterhouses, production halls, outdoor car-park levels, terraces and balconies.

Highlights

- Excellent mechanical properties
- High hardness
- Environmentally friendly and no unpleasant odour
- Water vapour permeable
- Long service life
- High UV and weather resistance

Field of application

- Finishing coat for floors and walls exposed to heavy abrasion and chemical loads
- Finishing coat for weather-exposed concrete floors
- UV protection for terraces and balconies

Technical properties

Property	Value and conditions
Packaging — Comp. A	2 kg 5 kg 10 kg 15 kg
Packaging — Comp. B	0.4 kg 1 kg 2 kg 3 kg
Mixing Ratio — Parts by weight	A : B = 100 : 20
Mixing Ratio — Parts by volume	A : B = 100 : 22
Pot life (max. allowed)	15 °C: 150 minutes 20 °C: 120 minutes 25 °C: 100 minutes
Processing	Minimum 15°C (room- and floor-temperature)
Processing — Humidity	Minimum 40% and maximum 75% RH
Curing Time (Accessibility)	15 °C: 4 - 6 h 20 °C: 2 - 3 h 25 °C: 1.5 - 2 h
Curing	2 days at 20 °C for mechanical load
Curing	7 days at 20 °C for chemical resistance
Further Coatings	After 12 hours at 20 °C

Property	Value and conditions
Further Coatings	but no longer than 72 hours at 20 °C
Consumption — Application rate	cca. 0.09-0.11 kg/m ² per coat
Consumption	Needed at least two, recommended three coats
Shade	RAL or NCS colour charts; gloss, semi-matt, matt
Solid Contents	50 ± 2 mass%; 40 ± 2 vol%
Specific Weight	1.16 g/ml DIN EN ISO 2811-2 20°C
VOC Content	IIA(j), 140 g/l (2010); product contains: max. 140 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 must be at least 15°C, dry, clean and free of dust and grease. It must have adequate tensile and compressive strength, be non-friable and sufficiently strong for its intended use. Remove adhesion-impairing grease, oil and paint residues using suitable methods.

Before application to floors, grind the surface using a diamond-segment disc or shot-blasting machine.

Surface strength must be at least 1.5 N/mm². The possibility of moisture ingress from below must be permanently excluded. Contact Chemcolor technical support for further advice.

Preparation of material

Before use, warm both containers to room temperature (20°C, minimum 15°C). The mixing ratio is 10 : 2 by weight. Pot life is approximately 120 minutes at 20°C under normal working conditions.

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: Dilute the material with 10-20% soft water. For larger areas, priming with C-Guard® EP 270 W diluted with 20% water is recommended.

Final coat: Dilute with up to 5% soft water, or to a suitable application viscosity for the working conditions.

Apply C-Guard® PU 220 W with a synthetic-bristle brush or a roller for waterborne two-component acrylic coatings. Adjust viscosity to the application method.

Air and substrate temperatures must not be below 15°C and relative humidity must not exceed 75%. The temperature difference between air and substrate must be less than 3°C to avoid disrupting drying. Dew-point conditions may affect adhesion and drying and cause surface spots. Drying times refer to 20°C; lower temperatures extend, and higher temperatures shorten, drying time. Ensure adequate ventilation in basements and poorly ventilated rooms, as evaporated moisture extends drying times and may cause film defects.

The reaction between components A and B produces CO₂ as a by-product. In wet films thicker than 150 microns, it becomes trapped and causes bubbling.

Cleaning of tools and surfaces after use

Clean tools and equipment immediately after work with water and soap. Later, clean with acetone or nitro thinner, or 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 materials to constantly damp surfaces. Protect fresh material 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.

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.

C-Guard PU 220/221 W	
Chemical resistances:	
Petrol (super, unleaded)	5
Diesel	5
Motor oil (10W40)	5
Brake fluid Dot 3	1
Hydraulic oil	5
Skydrol	4
HCl (10%)	5
H ₂ SO ₄	5

C-Guard PU 220/221 W	
Chemical resistances:	
NaOH (10%)	5
Detergent pH 6	5
MEK	5
Ammonia (25%)	5
DBP	5
Ethanol (48%)	4
H ₂ O	5
Coffee	5
Hot pan	5
5...excellent; 0....poor	

	
Chemcolor Sevnica d.o.o. Dolnje Brezovo 35 8290 Sevnica-SLO	
EN 13813-SR-B2.0-AR1-IR18	
Coating for interior and exterior concrete areas, applied according to the technical data sheet	
Fire behaviour:	Bfl
Release of corrosive substances:	SR
Water permeability:	NPD
Abrasion resistance according to BCA:	AR 1
Adhesive tensile strength	B 2.0
Resistance to impact:	IR 18
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.