

VELOSIT® CP 201

Cementitious Corrosion Protection and Concrete Primer



Application fields

VELOSIT CP 201 is a cementitious corrosion protection and primer for concrete, masonry and steel. It is designed as bonding bridge for the VELOSIT RM repair mortars on critical substrates. Typical application fields besides others are as follows:

- Priming of concrete and masonry for VELOSIT RM mortars
- Corrosion protection of concrete embedded steel like rebar
- Prime coat to fill blow holes, honeycombs and surface roughness
- Can be used for vibrated floor systems as a bonding bridge between tiles and mortar bed

Properties

VELOSIT CP 201 is a shrinkage compensated cementitious slurry with very quick strength development.

VELOSIT CP 201 surpasses the requirements of EN 1504-3 class R4 for concrete repair (CR) and can be used according to the principles 3, 4 and 7 acc. to EN 1504-9.

VELOSIT CP 201 can be applied by brush or suitable spray equipment.

- Minimal shrinkage/expansion under dry resp. wet curing conditions
- 45 min. working time and 12 MPa compressive strength after 4 hours
- Final strength of more than 45 MPa (6525 psi) after 28 days
- Very good adhesion to concrete and masonry
- Good sulfate resistance
- Good resistance against aggressive media with a pH range of 3-12 and against soft water with low ion content
- Potable water approved

Application

1.) Substrate preparation

VELOSIT CP 201 is designed for mineralic substrates like concrete, masonry and steel.

a.) Steel must be prepared to a purity of SA 2.5 acc. SIS 05 5900.

b.) Concrete substrates must be prepared with sand blasting, shot blasting or ideally high pressure water blasting (> 100 bar/1450 psi) to remove all bond breaking substances.

Remove all carbonated concrete. Test with Phenolphthalein or other suitable indicator until concrete with sufficient alkalinity for rebar protection is reached. If rebar is exposed remove concrete at least 6 mm (¼") behind rebar to fully embed the steel into VELOSIT repair system.

Substrate must be rough, open porous and load bearing. The minimum requirement for adhesive strength is 2.0 MPa (290 psi) and for the compressive strength 30 MPa (4350 psi). Active water leaks must be treated and fully stopped with VELOSIT PC 221. Leaking cracks need to be sealed with a PU injection material. Before the application of VELOSIT CP 201, dampen the substrate with clean water to a saturated surface dry (SSD) condition. Avoid puddling.

2.) Processing

Mixing: Mix VELOSIT CP 201 with 27 – 30 % potable water, i.e. 5.4 – 6.0 l (1.4 – 1.6 gal.) water per 20 kg (44 lb.) bag. Fill the 27 % mixing water (5.4 l per bag) into a suitable bucket and mix the powder with a slow speed drill (300-600 rpm) into the water until a lump-free mix is achieved. Add up to 3 % water under stirring until the desired consistency is achieved.

The product is workable for 45 – 60 min. at 23 °C.

a.) Brush application:

Apply one coat with a masons brush in crossing applications to the pre-dampened substrate at the specified rate. The VELOSIT RM repair mortar can be applied after VELOSIT CP 201 has gained sufficient strength which is after 1 – 2 hours at 23 °C. Colder temperatures extend, warmer temperatures shorten this time.

b.) Spray application:

Suitable spray machines are for example:

- Inotec GmbH: INOMAT-M8
- HighTech GmbH: HighPump Small
- Desoi GmbH: Desoi SP-Y

Fill the product into the feed hopper of the spray machine and spray continuously. VELOSIT CP 201 is applied in one coat. Long spray interruptions may result in clogging of the spray hose. The product may cure a lot faster if the hose is exposed to direct sunlight. Always empty and flush the machine after spraying or before long spray interruptions. VELOSIT CP 201 is a fast curing material and may be hard to remove if left in the machine.

3.) Curing

VELOSIT CP 201 does not require long term curing as it reacts relatively fast with water. Overcoat with a repair system as soon as it has gained sufficient strength.

Estimating

Brush or spray application 1 mm:

VELOSIT CP 201: 1.6 kg/m²*

* 1.6 kg VELOSIT CP 201 powder + 0,4 kg water, i.e. 2 kg mixed material per mm and m² (3.3 lbs per 40 mil dft and 10 sq.ft.)

Cleaning

VELOSIT CP 201 can be removed in the fresh state with water. Once it has cured acidic cleaners like muriatic acid are required.

Quality features

Color:	gray
Mixing ratio by weight:	100 : 28
Mixing ratio by volume:	100 : 40
Density:	1.4 kg/l
Substrate temperature:	5 – 35 °C (40 – 95 °F)
Compressive / flexural strength:	
4 hours:	12 / 3 MPa (1740/433 psi)
24 hours:	20 / 5 MPa (2900/725 psi)
7 days:	36 / 6 MPa (5220/870 psi)
28 days:	46 / 7 MPa (6670/1015 psi)
Chloride ions:	< 0.05 %
Carbonation resistance:	passed
Capillary water absorption:	0.1 kg/m ² x h ^{0.5}
Adhesive strength:	2.8 MPa (406 psi)
Restrained shrinkage:	2.8 MPa (406 psi)

Packaging

VELOSIT CP 201 is available in 20 kg (44 lb.) watertight plastic bags.

Storage

VELOSIT CP 201 can be stored in unopened original packs for 12 months at 5 – 35 °C (40 – 95 °F) in a dry storage place protected against sunlight.

Safety

Please observe the actual valid material safety data sheet and follow the described safety measures for handling of the product.

Recommendations

VELOSIT CP 201 is only available for professional applicators.


Never add water to VELOSIT CP 201 when it has started to set. Stiffened material must be disposed.

All described product features are determined under controlled laboratory conditions according to the relevant international standards. Values determined under job site conditions may deviate from the stated values.

Please always use the latest version of this data sheet available from our website www.velosit.de.

Manufacturer

VELOSIT GmbH & Co. KG
Industriepark 7
32805 Horn-Bad Meinberg
Germany
www.velosit.de

	
VELOSIT GmbH & Co. KG Industriepark 7 D-32805 Horn-Bad Meinberg 15 VELOSIT CP 201	
DIN EN 1504-3 Product for Structural and non structural repair for concrete	
Compressive strength	R4
Chloride ion content	≤ 0.05 %
Adhesive bond	≥ 2.0 MPa
Restrained shrinkage/ expansion	≥ 2.0 MPa
Elastic modulus	≥ 20 GPa
Reaction to fire	E