

VELOSIT® PC 221

Plug Cement

Application fields

VELOSIT PC 221 is a rapid setting cement for concrete and masonry. The product is used to waterproof water leakages, as an anchoring mortar and as an accelerator for other VELOSIT mortars. It is especially strong against negative side water pressure. Typical application fields besides others are as follows:

- Waterproofing of water leakages for example in concrete pipes, water tanks and basement walls
- Mortar for anchoring of dowels, posts and similar
- Repair mortar for small surface repairs
- Set accelerator for VELOSIT repair mortars

Properties

VELOSIT PC 221 is a shrinkage compensated plug cement with very fast strength development. VELOSIT PC 221 sets within 1 – 2 minutes. VELOSIT PC 221 is immediately

waterproof and anchors itself into the concrete surface.

VELOSIT PC 221 can be applied by hand or trowel.

- Minimal shrinkage/expansion under dry or wet curing conditions
- Fast strength development with 1740 psi (12 MPA) compressive strength after 1 hour and final strength of more than 7250 psi (50 MPa) after 28 days
- Resists 400 ft. (130 m) water pressure acc. to CRDC 48-73
- 1 min. working time and ready to receive top coat after 10 min.
- Very good adhesion to concrete and masonry
- No cracking
- No curing required
- Good resistance against aggressive media with a pH range of 3-12 and against soft water with low ion content
- Good weathering resistance
- Good sulfate resistance

Application

1.) Substrate preparation

VELOSIT PC 221 is designed for mineralic substrates like concrete, masonry or absorptive natural stones.

Chisel defective area or water leakage open achieving a U-shaped profile. Drill holes for starter bars and radiator mountings. Remove all dust and debris from areas to be treated. Dampen the surface with water to a saturated surface dry (SSD) condition before application of VELOSIT PC 221.

2.) Processing

Mix 3 parts (by volume) of VELOSIT PC 221 with 1 part potable water in a small mixing vessel by hand (for example with a spatula). Make sure that a lump-free mix with the desired consistency is achieved.

The product is workable for 1 min. at 70°F. Only mix as much material as can be applied immediately!

a.) Plugging of water leakages: Form mixed material by hand (wear protective gloves!) to a ball shape and push immediately into the prepared hole. Hold for 1 to 2 minutes until the product has sufficiently hardened. Immediately shave the surface flush with the substrate. After a short waiting time the area waterproofing such

as VELOSIT WP 101, WP 102 or CW 111 can be applied.

b.) Application as repair mortar: Mix VELOSIT PC 221 to the required consistency and fill immediately into the prepared defective area and smoothen with a trowel. Excessive material can be shaved off after 3 – 5 min.

c.) Use as anchoring mortar: Mix VELOSIT PC 221 to a slightly thinner consistency and immediately fill into the prepared anchor holes. Push dowels or posts immediately into the holes and adjust direction. Remove excess material as soon as possible.

d.) Use as accelerator: VELOSIT PC 221 acts as an accelerator for many cementitious mortars. Required amount must be determined in trial mixes.

3.) Curing

VELOSIT PC 221 does not require curing.

Cleaning

VELOSIT PC 221 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 : 25
Mixing ratio by volume:	100 : 33
Density:	10.8 lb/gal
Substrate temperature:	40 – 95°F (5-35°C)
Water impermeability acc. EN 12390-8:	
- Positive side:	190 psi (13 bar)
- Negative side:	72 psi (5 bar)

Compressive / flexural strength:

1 hour: 1740/290 psi (12/2 MPa)

24 hours: 4350/725 psi (30/5 MPa)

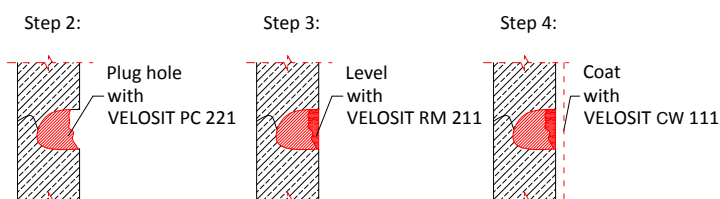
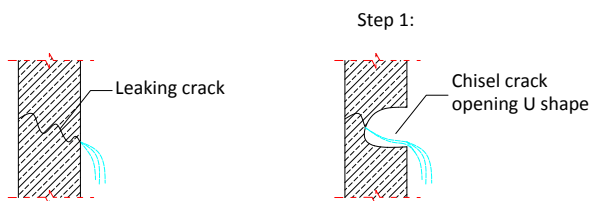
7 days: 5800/870 psi (40/6 MPa)

Chloride ions: < 0.05%

Carbonation resistance: passed

Capillary water absorption: 0.1 kg/m² x h^{0.5}

Adhesive strength: 232 psi (1.2 MPa)



Restrained shrinkage: 218 psi (1.5 MPa)
Fire rating EN13501-1: Class A1

Effective date

July 2014

Packaging

VELOSIT PC 221 is available in 26 lb (12 kg) plastic pails.

Manufacturer

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

Storage

VELOSIT PC 221 can be stored in unopened original packs for 12 months at 40-95°F(5-35°C) 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 PC 221 is only available for professional applicators.

Never add water to VELOSIT PC 221 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. Velosit USA LLC warrants this product for a period of 1 year from the date of installation to be manufactured without defects and to be consistent with printed technical characteristics. Velosit USA LLC makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties expressed or implied.

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