VELOSIT® FF 220

Fast Setting Floor Patching Mortar

Application fields

VELOSIT FF 220 is a cementitious patching mortar for underlayment and slabs. It is used to create a smooth surface for thin floor coverings. Typical application fields besides others are as follows:

- Interior and exterior use
- Smoothing of concrete slabs and floors
- Repair of small surface defects on concrete floors
- Ramps between floor coverings with slightly different height
- Application thickness from feather edge to 6 mm (¼“).

Properties

VELOSIT FF 220 is a shrinkage compensated cementitious underlayment patching mortar with very quick strength development. VELOSIT FF 220 binds the mixing water very fast allowing a very short wait time before it can be covered.

VELOSIT FF 220 creates a well bonded and very smooth layer on the substrate.

VELOSIT FF 220 surpasses the requirements of EN 1504-3 class R2 for concrete repair (CR) and can be used according to the principles 3 and 7 acc. to EN 1504-9.

VELOSIT FF 220 surpasses the requirements for class CT-C30-F4 acc. EN 13813.

VELOSIT FF 220 can be applied by rake or trowel.

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Creamy workability
- No sand, max. aggregate size < 0.07 mm (< 3 mils)
- Smooth surface profile
- Ready for covering with flooring system after 60 min.
- 10 min. working time and 0.5 MPa (73 psi psi) adhesive strength after 1 hour
- Open to foot traffic after 60 min.

- Very good adhesion to properly prepared concrete
- Excellent water resistance, no strength loss under water
- Light gray color close to concrete color

Application

1.) Substrate preparation

Concrete substrates must be prepared with grinding to remove all bond breaking substances.
Substrate must be rough, open porous and load bearing. The minimum requirement for adhesive strength is 1.0 MPa (145 psi) and for the compressive strength 20 MPa (2900 psi). Lower strength values can be accepted if lower adhesive strength is acceptable.

Priming:

Most substrates do not require a primer. Very absorbent materials must be primed with VELOSIT PA 911, which can be coated with VELOSIT FF 220 after 2 – 3 hours.

2.) Processing

Mixing: Mix VELOSIT FF 220 with 22 – 28 % potable water, i.e. 4.4 – 5.6 l (1.2 – 1.5 gal.) water per 20 kg (44 lb.) bag. Fill 22 % mixing water (4.4 l (1.2 gal) 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 more water (max. 6 %) under stirring until the desired consistency is achieved.
The product is workable for approx. 10 min. at 23 °C. Do not mix more material than can be used within this time.

Trowel application:
Pour VELOSIT FF 220 in small portions onto the prepared substrate and trowel to the desired thickness. Make sure there are no bond breaking substances on the surface. The product can be applied up to 6 mm (¼") in one application. Make sure to work in sections that can be finished within 10 min.

Never overcoat joints or untreated cracks as this will most likely result in surface cracks!

3.) Curing

VELOSIT FF 220 does not require curing. Flooring system may be applied as soon as VELOSIT FF 220 has sufficiently set.

Estimating

Volume yield:
20 kg (44 lbs.) VELOSIT FF 220 result in approx. 18.0 liter (0.64 ft^3) cured mortar.

Cleaning

VELOSIT FF 220 can be removed in the fresh state with water. Once it has cured acidic cleaners like muriatic acid and mechanical cleaning are required.

Quality features

Color:	gray
Mixing ratio by weight:	100 : 25
Mixing ratio by volume:	100 : 41
Density:	1.4 kg/l
Substrate temperature:	10 – 35 °C (50 – 95 °F)
Initial set:	30 min.
Final set.	45 min.
Compressive / flexural strength:	
24 hours:	30 / 5 MPa (4350/725 psi)
Adhesive strength*:	
- primed with PA 911:	1.1 MPa (159 psi)
Length change after 56 days:	
- dry storage:	- 0.6 mm/m (- 0.06 %)
- water storage:	+ 0.1 mm/m (+ 0.01 %)

*acc. EN 1542. Adhesion depends very much on proper surface preparation!

Packaging

VELOSIT FF 220 is available in 20 kg (44 lb.) watertight plastic bags.

Storage

VELOSIT FF 220 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 FF 220 is only available for professional applicators.

Never add water to VELOSIT FF 220 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.

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VELOSIT FF 220

DIN EN 1504-3
Betonersatzprodukt für die nicht statisch relevante Instandsetzung

Druckfestigkeit	R2
Chloridionengehalt	≤ 0,05 %
Haftvermögen	≥ 0,8 MPa
Behindertes Schwinden/ Quellen	NPD
Brandverhalten	E