

# VELOSIT® FF 220

## Fine Filler Ø - 5 mm

### Applications

VELOSIT FF 220 is a cement-based fine filler for all types of common construction substrates. It creates a very smooth surface and is especially suitable for skim coating exposed concrete surfaces. Typical applications include:

- Filling surface defects on concrete and masonry
- Application on horizontal and vertical surfaces, including overhead work
- Filling blowholes, air voids, and rough surfaces
- As a fine filler in concrete repair systems
- Applicable in layer thicknesses from 0 to 5 mm

### Properties

VELOSIT FF 220 is a cement-based fine filler with rapid strength development. It forms a strongly bonded, smooth surface on the substrate.

VELOSIT FF 220 can be applied using a trowel or suitable spraying methods.

- Low shrinkage/expansion under dry or wet storage, minimizing cracking
- Excellent workability, especially overhead
- Working time: 30 minutes
- Final strength of more than 25 MPa after 28 days
- Walkable after 2–3 hours
- Very high adhesion to concrete and masonry
- No curing required; only under hot and dry conditions must the surface be kept moist
- Good resistance to chloride and CO<sub>2</sub> due to a dense pore structure
- Good weather resistance
- Good sulfate resistance
- Medium grey color similar to concrete

### Application

#### 1.) Substrate Preparation

VELOSIT FF 220 is designed for mineral substrates such as concrete or masonry.

Mineral substrates (concrete, masonry, and cement-compatible natural stone) must be free of all substances that reduce adhesion.

The surface must be open-pored and load-bearing. The minimum requirement for tensile bond strength is 0.7 MPa, and compressive strength must be at least 20 MPa. Lower strengths may be acceptable if reduced adhesion is tolerable.

Before applying VELOSIT FF 220, the surface should be pre-wetted to create optimal conditions.

## 2.) Processing

Mixing:

Mix VELOSIT RM 224 with 24-28 % potable water, i.e., 4.8-5.6 liters (1.3-1.5 gal.) per 20 kg (44 lb.) bag.

Add 24 % mixing water (4.8 liters (1.3 gal.) per bag) into a clean container and mix the powder with a slow-speed mixer (300–600 rpm) until a lump-free consistency is achieved. Add more water (max. 4 %) if needed to reach the desired consistency.

Clean the mixing tool immediately after use. The product remains workable for approx. 30 minutes at 23°C.

### Optional Priming:

Apply VELOSIT FF 220 as a primer using a wet sponge onto the damp substrate. Apply approx. 0.3–1 kg/m<sup>2</sup> into the surface pores.

a.) Application with a trowel:

VELOSIT FF 220 can be applied wet-on-wet onto the primer or prepared surface.

Maximum layer thickness is 5 mm on vertical surfaces.

Work in sections that can be completed within 30 minutes.

b.) Repair of architectural elements: Once VELOSIT FF 220 has started to set, it can be

shaped with a spatula as desired.

Scrape the material in thin layers until the desired result is achieved.

If necessary, finish the surface with a wet sponge to remove irregularities and air bubbles.

## 3.) Curing

VELOSIT FF 220 does not require extensive curing due to its rapid reaction with water.

Only under very hot and dry conditions may curing with water be necessary for up to 4 hours.

## Consumption

Yield:

Approx. 1.50 kg VELOSIT FF 220 powder per mm layer thickness per m<sup>2</sup> on smooth surfaces.

Consumption may be significantly higher on rough substrates.

Typical wall application:

1.5 kg\*/m<sup>2</sup> per 1 mm dry layer thickness on smooth substrates.

On rough substrates, consumption may be higher.

\* 1.5 kg powder + 0.4 kg water = 1.9 kg mixed material per mm per m<sup>2</sup>

## Cleaning

VELOSIT FF 220 can be removed with water while still fresh.

Once hardened, acid-based cleaners such as diluted hydrochloric acid or mechanical removal are required.

## Quality features

Color:	medium gray
Density:	ca. 1,1 kg/l
Substrate temperature:	5 – 35°C
Working time :	approx. 30 min.

Initial setting:	approx. 80 min.
Compressive / flexural strength approx.:	
24 hours:	6 / 2 MPa
7 days:	7 / 3 MPa
28 days:	25 / 6 MPa
Chloride ion content:	< 0,05 %
Carbonation resistance:	passed
Bond strength*:	approx. 1,5 MPa
Fire classification EN13501-1:	Class A1

\*According to EN 1542. Pull-off strength values are highly dependent on substrate preparation.

Please always use the latest version of this data sheet available from our website [www.velosit.de](http://www.velosit.de).

## Manufacturer

VELOSIT GmbH & Co. KG  
 Industriepark 5 – 7  
 32805 Horn-Bad Meinberg  
 Germany  
[www.velosit.de](http://www.velosit.de)

## 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.