

# VELOSIT® LS 225

## Rapid Hardening Floor Patching Mortar



### Application fields

VELOSIT LS 225 is a cementitious leveling mortar for self leveling underlayments and concrete floors. It is used to create a smooth surface profile for thin floor coverings and coatings. Typical application fields besides others are as follows:

- Interior and exterior floors
- Fairing of concrete slabs and screeds
- Repair of surface defects like blow holes and honey combs on concrete floors
- Application thickness from feather edge to 30 mm (1 1/4")

### Properties

VELOSIT LS 225 is a shrinkage compensated smoothing compound based on a special cement with very quick strength development. VELOSIT LS 225 binds the mixing water very fast allowing a very short wait time before it becomes trafficable or can be covered. VELOSIT LS 225 creates a well bonded and very smooth layer on the substrate.

VELOSIT LS 225 surpasses the requirements of EN 1504-3 class R3 for concrete repair (CR) and can be used according to the principles 3 and 7 acc. to EN 1504-9.

VELOSIT LS 225 can be applied by rake or suitable pumping equipment.

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Creamy working consistency
- Smooth surface profile
- Fast air release with minimal requirement for agitation
- Ready for foot traffic and application of further coatings and adhesives after 60 min.
- 15-20 min. working time and 20 MPa (2900 psi) compressive strength after 4 hours
- Final strength of more than 0.5 MPa (73 psi) adhesive strength after 1 hour
- Excellent adhesion to properly prepared concrete
- Excellent water resistance, no strength loss under water
- Light gray color close to concrete color

## Application

### 1.) Substrate preparation

VELOSIT LS 225 is designed for concrete substrates. Steel may be coated with a suitable bonding bridge.

a.) Steel must be prepared to a purity of SA 2&1/2 acc. SIS 05 5900.

b.) Concrete substrates must be prepared with sand blasting, shot blasting or high pressure water blasting (>100 bar/1450 psi) 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. Active water leaks must be treated and fully stopped with VELOSIT PC 221. Leaking cracks need to be sealed with a PU injection material.

#### Priming:

a.) Steel: Apply a corrosion protection coat on rebar with VELOSIT CP 201. Other steel areas can be primed with VELOSIT PR 303 with a full broadcast. Steel may expand and contract differently under temperature changes than a cementitious mortar. Thus steel application is only recommended if steel is embedded in larger concrete bodies or the temperature is not subject to major changes.

b.) Concrete substrates can be primed with VELOSIT PA 911 (Acrylic Primer). VELOSIT PA 911 is ready to receive the leveler usually after 2-3 h curing.

c.) At lower requirements for the adhesive strength VELOSIT LS 225 may be applied directly onto the clean and load bearing substrate. Dampen the surface to a saturated surface dry (SSD) appearance and avoid puddling water.

### 2.) Processing

Mixing: Mix VELOSIT LS 225 with 22-26% potable water, i.e. 5.5 – 6.5 l (1.5 – 1.7 gal.) water per 25 kg (55 lb.) bag. Fill the mixing water 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. Use a cage type mixing paddle to reduce the air entrainment into the mix. The product is workable for 15-20 min. at 23°C.

a.) Rake application: Pour VELOSIT LS 225 onto the primed substrate and rake to the desired thickness. Make sure there are no bond breaking substances on the primer. The product can be applied up to 30 mm (1 1/4 ") in one application. Make sure to work in sections that can be finished within 15 min.

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

### 3.) Curing

VELOSIT LS 225 does not require curing. Protect the applied product for 24 hours against direct sun light, wind and temperature changes exceeding 5°C (9°F).

### Estimating

Volume yield:

25 kg (55 lbs.) VELOSIT SL 503 result in approx. 16 liter (0.58 ft<sup>3</sup>) cured mortar.

### Cleaning

VELOSIT LS 225 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 : 38
Density:	1.5 kg/l
Substrate temperature:	10 – 35°C* (50-95°F)
Initial set:	30 min.
Final set:	50 min.
Compressive / flexural strength:	
24 hours:	40 / 5 MPa (5800/725 psi)
Chloride ions:	< 0.05%
Carbonation resistance:	passed
Capillary water absorption:	0.1 kg/m <sup>2</sup> x h <sup>0.5</sup>
Adhesive strength**:	
- primed with PA 911:	1.8 MPa 261 psi)

Restrained shrinkage: 1.6 MPa (232 psi)  
Fire rating EN13501-1: Class A1  
\*\*acc. EN 1542. Adhesion depends very much on proper surface preparation!

## Manufacturer

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

## Packaging

VELOSIT LS 225 is available in 25 kg (55 lb.) watertight plastic bags.

## Storage

VELOSIT LS 225 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.

Used product containers must be emptied completely after use. They can be returned to VELOSIT GmbH & Co. KG on request.

## Recommendations

VELOSIT LS 225 is only available for professional applicators.

Never add water to VELOSIT LS 225 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](http://www.velosit.de).

## Effective date

December 2015