

VELOSIT® SL 525

Cementitious Leveling Mortar



Application fields

VELOSIT SL 525 is a cementitious floor leveling compound for leveling and leveling cement, mastic asphalt, calcium sulfate screed, concrete floors and other suitable substrates to receive textile and elastic floor coverings, tiles and slabs.

Typical application fields include:

- Leveling of floors receiving flooring materials
- Application thickness from 1 mm (40 mils) to 12 mm (½")

Properties

VELOSIT SL 525 is a shrinkage compensated cementitious self leveling underlayment with quick strength development. VELOSIT SL 525 binds the mixing water very fast allowing very short wait times prior to covering. VELOSIT SL 525 creates a well bonded and very smooth layer on the substrate.

VELOSIT SL 525 meets the requirements of EN 13813 and is classified CT-C25-F5.

VELOSIT SL 525 can be applied by rake or suitable pumping equipment.

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Excellent flow with good slump life
- Extremely smooth surface profile
- Easy to sand and/or polish after curing
- Fast air release with minimal agitation requirement
- Very low emission
- Ready for covering with ceramic tiles after 5 hours and moisture sensitive floor coverings after 48 hours.
- 30 – 40 min. working time and 10 MPa (1450 psi) compressive strength after 5 hours
- Final strength of more than 25 MPa (3652 psi) at 28 days
- Open to foot traffic after 3 hours
- Very good adhesion to properly prepared substrates

- Excellent water resistance, no strength loss under water
- Mid gray color

Application

1.) Substrate preparation

VELOSIT SL 525 is designed for concrete and various screed types.

Concrete, gypsum, magnesia and asphalt substrates must be prepared with sand blasting, shot blasting or 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. Active water leaks must be treated and fully stopped with VELOSIT PC 221. Leaking cracks need to be sealed with a PU injection material.

Rising components must be decoupled with the VELOSIT RD 800 edge insulation strip to prevent clamping. Movement and separation joints must be taken over, shrinkage must be excluded.

Any cracks in the substrate must be filled with VELOSIT GH 311 and sprinkled with suitable quartz sand 0.7 mm - 1.25 mm (see technical data sheet).

Priming:

Concrete substrates:
with a humidity of < 4 % and a water vapor emission rate of less than 0.6 g/m²h (3 lbs./24h x 1000 ft²) can be primed with VELOSIT PA 911 (Acrylic Primer). VELOSIT PA 911 is ready to receive the leveler usually after 2 – 3 h curing.
Alternatively, prime with VELOSIT PR 301 (epoxy resin primer). The primer must be sprinkled with suitable quartz sand 0.7 mm - 1.25 mm (see technical data sheet) when fresh. After curing and

removal of the excess sand, VELOSIT SL 525 can be applied.

In case of residual moisture > 4 % or an expected later increased exposure to moisture, the special primer VELOSIT PR 303 must be applied. The primer must be sprinkled over the entire surface with suitable quartz sand 0.7 mm - 1.25 mm (see technical data sheet). After curing and removal of the excess sand, VELOSIT SL 525 can be applied.

Wooden substrates:

The wood substrate must be sufficiently load-bearing, any deformation of the substrate must be stopped. Coating is only possible if the wood is completely dry and subsequent exposure to moisture is excluded. Wooden substrates must be decoupled by suitable measures before coating with VELOSIT SL 525 in order to eliminate any deformations in the substrate. Alternatively, they can be primed with VELOSIT PR 301 and full-surface sanding with suitable quartz sand 0.7 mm - 1.25 mm (according to technical data sheet) to ensure a high adhesion bond.

2.) Processing

Mixing:

Concrete substrates:

Mix VELOSIT SL 525 with 5.0 – 5.5 l potable water per 20 kg (44 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.

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Mix VELOSIT SL 525 with 5.0 – 5.5 l potable water per 20 kg (44 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. Immediately after mixing, add 1 bag (200 g) of VELOSIT GF 825 to 1 bag (20 kg) of VELOSIT SL 525. To do this, gradually stir in the contents of the bag.

When subsequently filling VELOSIT SL 525, a minimum layer thickness of 3 mm must be observed (according to technical data sheet VELOSIT GF 825).

The addition of VELOSIT GF 825 changes the flexural and compressive strength.

a.) Rake application:

Pour VELOSIT SL 525 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 12 mm (½ ") in one application. Make sure to work in sections that can be finished within 30 min. Immediately after pouring use gauge rake to achieve thickness and force entrapped air to the surface. Alternatively a spiked roller can be used to help air to surface at larger application thickness.

b.) Pump application:

Suitable mortar pumps are for example:

- PFT GmbH: PFT G4
- HighTech GmbH: HighComb Big
- Wagner GmbH: PC 25
- Putzmeister GmbH: SP11 or MP 25
- Inotec GmbH: INOMAT-M8
- m-tec duo-mix 2000

In mixing pumps feed the powder into the product hopper and adjust the water to the specified rate. The water rate can be adjusted by comparing the flow with a hand-mixed batch with a correct water addition. Control the flow with a flow cone every 5 to 10 min. With mortar pumps add the mixed product as described under „Mixing“ into the feed hopper of the pump and pump continuously. Rake and smooth the material as described under section a.).

Long pump interruptions may result in clogging of the pump hose. The product may cure a lot faster if the hose is exposed to direct sunlight. Always empty and flush the machine after pumping or before long spray interruptions. VELOSIT SL 525 is a fast curing material and may be hard to remove if left in the machine.

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

3.) Curing

VELOSIT SL 525 does not require curing. Protect the applied product for 24 hours against direct sun light, wind and temperature changes exceeding 5 °C (9 °F).

4.) Finishing

To remove rake marks or if a smoother surface is desired VELOSIT SL 525 can be sanded or polished after it has gained sufficient strength. This is usually after 6 – 8 hours depending on application thickness and climatic conditions.

Estimating

Approx. 1.5 kg (3.3 lbs.) powder VELOSIT SL 525 per 1 mm dry film thickness on 1 m² surface on smooth surfaces. On rough substrates, the consumption may be considerably higher.

Cleaning

VELOSIT SL 525 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
 Substrate temperature: 10 – 35 °C
 (50 – 95 °F)

Initial set: 60 min.
 Final set: 90 min.

Compressive / flexural strength*:
 4 hours: 8 / 2 MPa (1160/290 psi)
 24 hours: 14 / 3 MPa (2031/435 psi)
 7 days: 20 / 4 MPa (2901/580 psi)
 28 days: 25 / 5 MPa (3626/725 psi)

Adhesive strength**:
 - primed with PA 911: 1.2 MPa (174 psi)

Length change after 56 days:
 - dry storage: - 0.3 mm/m (- 0.03 %)

Fire rating EN13501-1: Class A1_n

* without VELOSIT GF 825 glass fibers

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

Packaging

VELOSIT SL 525 is available in 20 kg (44 lb.) watertight plastic bags.

Storage

VELOSIT SL 525 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 SL 525 is only available for professional applicators.

Never add water to VELOSIT SL 525 when it has started to set. Stiffened material must be disposed.


For application with mixing pumps we recommend spiked rolling after 2 – 5 min. for a better surface smoothness.

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

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VELOSIT GmbH & Co. KG Industriepark 5 – 7 D-32805 Horn-Bad Meinberg 17 VELOSIT SL 525	
EN 13813 Cementitious screed material for use internally in buildings CT-C25-F5	
Reaction to fire	A1 _n
Release of corrosive substances	CT
Compressive strength	C25
Flexural strength	F5