VELOSIT® SC 262

Rapid Pumpable Screed

Application fields

VELOSIT SC 262 is a ready-to-use cementitious flowable screed mix for 10 – 120 mm thick applications. It is mixed on site creating a rapid hardening overlayment. It is ready to receive flooring systems within 24 hours. Typical application fields besides others are as follows:

- Interior and exterior use
- Bonded screeds
- On heated floors (radiant and electric)
- De-coupled screeds on insulation or membranes
- Job site concrete mix

Properties

VELOSIT SC 262 is a shrinkage compensated ready for use screed formulation with very quick strength development. VELOSIT SC 262 binds the mixing water very fast allowing a very short wait time before it can be covered.

VELOSIT SC 262 surpasses the requirements of EN 13813 class CT-C40-F7.

VELOSIT SC 262 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 workability
- Fiber reinforced
- Ready for covering with ceramic tiles after 4 hours, for moisture sensitive floor coverings after 24 hours
- 60 min. working time and 13 MPa (1885 psi) compressive strength after 4 hours
- Final strength of more than 40 MPa (7252 psi) after 28 days
- Open to foot traffic after 4 hours
- Very good adhesion to properly prepared concrete
- Excellent water resistance, no strength loss under water
- High tensile strength allowing thin applications on de-coupled screed applications

- Good weathering resistance
- Good sulfate resistance
- Light gray color close to concrete color

Application

1.) Substrate preparation

Bonded screed application

VELOSIT SC 262 is designed for concrete substrates. Steel may be coated with a suitable bonding bridge.

a.) Steel must be prepared to a purity of SA 2.5 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 with sand 0.7-1.2 mm. 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
must be primed with VELOSIT CP 201 and the screed can be applied wet in wet immediately after priming.

De-coupled screeds

a.) Insulation boards (EPS, XPS etc.) must be laid out on a solid substructure that prevents future settlement. A PE membrane is mandatory to avoid the screed mortar entering the joints and building bridges to the substrate. Use de-coupling strips on the wall termination. Seal membrane overlaps with tape. Please consider only the thickness above radiant floor heating pipes for the thickness calculation.

b.) Existing membranes like bitumen sheets can be covered directly with a VELOSIT SC 262 based screed.

c.) Wooden substrates must be covered with a de-coupling membrane (for example PE sheet).

Plan and install joints and field areas according to the respective standards for cementitious screeds.

2.) Processing

Mixing: VELOSIT SC 262 requires 12 % potable water, i.e. 3 l (0.8 gal.) water per 25 kg (55 lb.) bag. Fill the mixing water into a freefall mixer and add 1 – 4 bags of VELOSIT SC 262 and mix for 2 min. Check the consistency and add water to adjust the desired consistency (12 l total water addition must not be exceeded for 4 bags = 100 kg). Small volumes can be hand-mixed in a suitable bucket. Never add more than a total of 3 l of water per bag. Add the calculated water amount and add the powder mix afterwards with a slow speed drill (300 – 600 rpm) into the water until a lump-free mix is achieved. Do not over water the product! Overwatering will extend the drying time, increase shrinkage and result in a lower final strength.
The product is workable for 60 min. at 23 °C.

a.) Rake application:
Pour VELOSIT SC 262 screed onto the prepared substrate and level with a rake to the desired thickness and agitate with a dapple bar to remove air. Make sure to work in sections that can be finished within 30 min.

b.) Pump application:
Suitable mortar pumps are for example:
- Brinkmann GmbH: Estrichboy FHS 200/3
- PFT GmbH: G4
- Putzmeister GmbH: SP11 or MP 25
- M-Tec DuoMix 2000

Always prime the hose with a thin cement slurry (for example with VELOSIT CP 201 or VELOSIT SC 262) before starting to pump. Feed VELOSIT SC 262 into the product hopper and adjust the water to the specified rate. The water rate is adjusted by testing the flow with a large flow cone (340 ml / 12 fl.oz). The flow must be between 23 and 26 cm (ideal 24 cm). Expect segregation when you exceed a flow of 28 cm (approx. 14 % water). Control the flow with a flow cone every 10 min. Pump continuously and spread the material with a rake to the desired thickness. Agitate with a dapple bar to remove entrained air. Make sure to work in sections that can be finished within 30 min. 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 pump interruptions. VELOSIT SC 262 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!

Recommended installation thickness:

- decoupled screeds:
  point loads < 2 kN/m²: min. 25 mm
  point loads < 10 kN/m²: min. 65 mm
  Do not exceed 100 mm in one lift.

- bonded screeds: 10 – 120 mm

3.) Curing

VELOSIT SC 262 is a cement based screed an 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 SC 262 result in approx. 12 liter (0.46 ft³) cured screed.

Consumption per m²:
1 cm thickness: 19 kg
4 cm thickness: 75 kg
5 cm (2“) thickness: 94 kg

Cleaning

VELOSIT SC 262 screeds 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
Water demand:	12 %
Density:	1.6 kg/l
Substrate temperature:	5 – 35 °C (40 – 95 °F)
Initial set:	90 min.
Final set.	120 min.

Compressive / flexural strength:

4 hours:	13 / 3 MPa (1885/435 psi)
24 hours:	20 / 5 MPa (2900/725 psi)
7 days:	30 / 6 MPa (4350/870 psi)
28 days:	40 / 7 MPa (5800/1015 psi)

Adhesive strength*:
- primed with CP 201: 2.2 MPa (319 psi)

Length change after 56 days:

- dry storage:	- 0.2 mm/m (- 0.02 %)
- water storage:	+ 0.0 mm/m (+ 0.00 %)

Fire rating EN13501-1: Class $A1_{fl}$

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

Packaging

VELOSIT SC 262 is available in 25 kg (55 lb.) watertight plastic bags or 1000 kg (2.200 lb.) BigBags.

Storage

VELOSIT SC 262 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 SC 262 is only available for professional applicators.

Never add water to VELOSIT SC 262 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.

CE

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VELOSIT SC 262

EN 13813
Cement screed mortar for floor constructions in indoor and outdoor areas
CT-C40-F7

Reaction to fire	$A1_{fl}$
Release of corrosive substances	CT
Compressive strength	C40
Flexural strength	F7

Manufacturer

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