

# VELOSIT<sup>®</sup> SC 244

## Rapid Flowable Screed

DATA SHEET



HYCHEM

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VELOSIT SC 244 is a ready-to-use cementitious flowable screed mix.

It is mixed on site creating a rapid hardening overlayment.

VELOSIT SC 244 is a shrinkage compensated ready for use screed formulation with very quick strength development.

VELOSIT SC 244 is the result of many years in the field testing and research. VELOSIT SC 244 is ready to receive flooring systems within 24 hours.

### TYPICAL APPLICATIONS

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

### PROPERTIES

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Excellent workability
- Ready for covering with ceramic tiles after 4 hours, for moisture sensitive floor coverings after 48 hours
- Final strength of more than 50 MPa 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

### TECHNICAL DETAILS

|                                 |  |
|---------------------------------|--|
| Color                           | grey and white   |
| Water demand                    | 9.5 - 10.8 %   |
| Density                         | 1.68 kg/l  |
| Substrate temperature           | 5 - 35 °C  |
| Initial set                     | 90 min.  |
| Final set                       | 120 min.   |
| Compressive / flexural strength | 4 hours: 13 / 2 MPa<br>24 hours: 26 / 4 MPa<br>7 days: 42 / 6 MPa<br>28 days: 51 / 7 MPa |
| Adhesive strength*              | primed with CP 201: 2.2 MPa  |

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

### APPLICATION GUIDELINES

#### Surface preparation

VELOSIT SC 244 is designed for concrete substrates. Steel may be coated with a suitable bonding bridge.

#### Steel

must be prepared to a purity of SA 2.5 acc. SIS 05 5900.

#### Concrete

substrates must be prepared with sand blasting, shot blasting or high pressure water blasting (> 100 bar) 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 and for the compressive strength 20 MPa. Lower strength values can be accepted if lower adhesive strength is acceptable. Active water leaks must be treated and fully stopped with VELOSIT PC 222. Leaking cracks need to be sealed with a Hychem Spetec PU Injection material.

#### Priming

##### Steel

Apply a corrosion protection coat on rebar with VELOSIT CP 201. Other steel areas can be primed with Hychem E100SS or E500P 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.

##### Concrete substrates

must be primed with VELOSIT CP 201 and the screed can be applied wet in wet immediately after priming.

#### De-coupled screeds

##### 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.

##### Existing membranes like bitumen sheets

can be covered directly with a VELOSIT SC 244 based screed.

##### Wooden substrates

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

#### Processing

##### Mixing

VELOSIT SC 244 requires 9.5 - 10.8 % potable water, i.e. 1.9 - 2.2 l water per 20 kg bag. Fill the mixing water into a freefall mixer and add 1 - 4 bags of VELOSIT SC 244 and mix for 2 min. Check the consistency and add water to adjust the desired consistency (total water not to exceed 8.8 l). Small volumes can be hand-mixed in a suitable bucket. 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!

The product is workable for 40 min. at 23 °C.

### Rake application

Pour VELOSIT SC 244 screed onto the prepared substrate and level with a rake to the desired thickness and agitate to remove air. Make sure to work in sections that can be finished within 30 min.

### 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

Feed VELOSIT SC 244 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 10 min. Pump continuously and spread the material with a rake to the desired thickness. Agitate 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 244 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!

### Curing

VELOSIT SC 244 is a cement based screed and does not require curing. Protect the applied product for 24 hours against direct sun light, wind and temperature changes exceeding 5 °C.

### ESTIMATING

Volume yield:

20 kg VELOSIT SC 244 result in approx. 9.6 liter cured screed.

Consumption per m<sup>2</sup>:

1 cm thickness: 19 kg

4 cm thickness: 75 kg

5 cm (2") thickness: 94 kg

### CLEAN UP

VELOSIT SC 244 can be removed in the fresh state with water. Once it has cured acidic cleaners like muriatic acid and mechanical cleaning are required.

### PACKAGING

20 kg watertight plastic bags or 1000 kg BigBags.

### STORAGE

In unopened original packs for 12 months at 5 - 35 °C 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.

#### NOTE: Customer responsibility

The technical information and application advice given here is based on the best information available at the time of print. As the information herein is of a general nature, no assumption can be made as to the products suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation.

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If unsure contact Hychem for further technical advice before proceeding.

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