VELOSIT® SC 240

RAPID SCREED CEMENT

HYCHEM
Infrastructure

Product Description

VELOSIT® SC 240 is a cementitious binder for on-site screed mixes. VELOSIT® SC 240 may also be used as a binder for special concrete mixes and mortar formulations. VELOSIT® SC 240 is a shrinkage compensated special cement formulation with very quick strength development. VELOSIT SC 240 is the result of many years in the fi eld testing and research. VELOSIT SC 240 is designed for concrete substrates.

Typical Applications

- Interior and exterior use
- Bonded screeds
- Industrial screeds
- De-coupled screeds on insulation or membranes
- On-site concrete mixes

Features

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Excellent workability
- Ready for covering with ceramic tiles after 5 hours, for moisture sensitive floor coverings after 24 hours
- Final strength of more than 50 MPa after 28 days
- Open to foot traffi c after 5 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 Data

Colour	Light grey
Water demand	35 - 45%
Density	1.6 kg/l
Substrate temperature	5 - 35ºC
Initial set	135 minutes
Final set	160 minutes
Compressive / Flexural strength (1 : 4)	5 hours: 12 / 2 MPa 24 hours: 30 / 4 MPa 7 days: 44 / 6 MPa 28 days: 51 / 7 MPa
Adhesive strength*	Primed with VELOSIT® CP 201 : 2.0MPa

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

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APPLICATION GUIDELINES

Surface Preparation

VELOSIT® SC 240 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 221. Leaking cracks need to be sealed with a 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 with VELOSIT® SC 240 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 240 based screed.

Wooden substrates

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

Processing

Mixing

Mix VELOSIT® SC 240 with 35 – 45 % potable water, i.e. 7.0 – 9.0 l water and 80 to 100 kg screed sand with a proper grading per 20 kg bag. Depending on aggregate moisture fill the 20 –35 % mixing water (4.0-7.0 l per bag) into a free-fall mixer and add the calculated amount of screed sand. 80 kg screed sand are usually 11 – 12 shovels. Add a bag of VELOSIT® SC 240 and mix for 2 min. Check the consistency and add water to adjust the desired consistency (total water not to exceed 9.0 l). Small volumes can be hand-mixed in a suitable bucket. Mix designs can be calculated according the below mentioned chart. Do not over water the product! The product is workable for 60 min. at 23 °C.

Application

Trowel Application

Pour VELOSIT® SC 240 screed onto the prepared substrate and level with a rake to the desired thickness. Finish with a screed trowel and compact the surface. Make sure to work in sections that can be finished within 45 min.

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Application continued...

Pump Application

Suitable mortar pumps are for example:

- Brinkmann GmbH: Estrichboy
- Putzmeister GmbH: Mixokret M 740

Add the required amount of water into the drum and shovel 240 kg (35 shovels) of screed sand into the drum. Add 3 bags of VELOSIT® SC 240 and mix for 1 – 2 min. Pump onto the prepared substrate and level with a rake. Finish with a screed trowel and compact the surface. Make sure to work in sections that can be finished within 45 min. Control the slump with a slump cone regularly. 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 240 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 240 based screed do not require curing. Protect the applied product for 24 hours against direct sun light, wind and temperature changes exceeding 5 °C.

Estimating

Volume yield

1:4 mixing ratio: 20 kg VELOSIT® SC 240 plus 80 kg screed sand result in approx. 50 liter cured screed.

Consumption per m^2

1 cm thickness: 4 kg
4 cm thickness: 16 kg
5 cm thickness: 20 kg

Clean up

VELOSIT® SC 240 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

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.

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