VELOSIT® RM 224

Vertical and Overhead Finishing Mortar

DATA SHEET

HYCHEM

velosit

VELOSIT RM 224 is a cementitious finishing mortar for various types of construction substrates. It creates a very fine surface texture and is especially suitable for fair-faced concrete.

VELOSIT RM 224 is a shrinkage compensated cementitious finish mortar with fast strength development.

VELOSIT RM 224 is the result of many years in the field testing and research. VELOSIT RM 224 creates an extremely well bonded, rigid, abrasion resistant layer on the substrate.

TYPICAL APPLICATIONS

- Finishing of surface defects on concrete, masonry and many natural stones
- Application on horizontal and vertical incl. overhead areas
- Filling of blow holes, honeycombs and surface roughness
- As a finish on concrete repair systems
- Application thickness from feather-edge to 10 mm

PROPERTIES

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Excellent workability especially overhead
- 30 min. working time and 15 MPa compressive strength after 4 hours
- Final strength of more than 35 MPa after 28 days
- Open to foot traffic after 2 – 3 hours
- Very good adhesion to properly prepared concrete and masonry
- Water curing only under hot and dry conditions required for max. 4 hours
- Good resistance against CO_2 and Chloride penetration due to a very tight pore structure
- Good weathering resistance
- Good sulfate resistance

TECHNICAL DETAILS

Color	medium grey
Mixing ratio by weight	100 : 28
Mixing ratio by volume	100 : 36
Density	1.3 kg/l
Substrate temperature	5 – 35 °C
Initial set	55 min.
Final set	85 min.
Compressive / flexural strength	4 hours: 13 / 2 MPa 24 hours: 20 / 5 MPa 7 days: 33 / 7 MPa 28 days: 36 / 8 MPa
Chloride ions	< 0.05 %
Carbonation resistance	passed
Capillary water absorption	0.1 kg/m² x $h^{0.5}$
Adhesive strength*	1.5 MPa
Restrained shrinkage*	1.5 MPa

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

APPLICATION GUIDELINES

Surface preparation

VELOSIT RM 224 is designed for mineralic substrates like concrete, masonry or absorptive natural stones.

Mineralic substrates (concrete, masonry, cement compatible natural stones)

must be free from all bond breaking substances.

Substrate must be rough, open porous and load bearing. The minimum requirement for adhesive strength is 0.7 MPa and for the compressive strength 20 MPa. Lower strength values can be accepted if lower adhesive strength is acceptable. Before the application of VELOSIT RM 224, dampen the substrate with clean water to a saturated surface dry (SSD) condition.

Processing

Mixing

Mix VELOSIT RM 224 with 27 – 32 % potable water, i.e. 5.4 – 6.2 l water per 20 kg bag. Fill the 27 % mixing water (5.4 l per bag) 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. Add up to 5 % water under stirring until the desired consistency is achieved. Clean mixing paddle immediately after mixing.

The product is workable for 30 min. at 23 °C.

Priming

Apply a prime coat of VELOSIT RM 224 with a wet sponge to the pre-dampened substrate. Work approximately 0.3 – 1 kg per m² into the surface pores.

Trowel application

Trowel VELOSIT RM 224 fresh in fresh into the prime coat or clean surface. The product can be applied up to 10 mm on vertical areas. Make sure to work in sections that can be finished within 30 min.

Re-modeling of architectural features

Once VELOSIT RM 224 has started to set it can be sculpted as needed. Shave off material in thin layers to achieve desired form. If needed finish surface with a slightly wet sponge to remove surface imperfections and air voids.

Curing

VELOSIT RM 224 does not require long term curing as it reacts relatively fast with water. Only under hot weather or very dry conditions water curing for 3 – 4 hours is required.

ESTIMATING

Repair of surface defects

20 kg VELOSIT RM 224 result in approx. 13.7 litre cured mortar.

Surface Overlay:

1.5 kg* VELOSIT RM 224 per m^2 for 1 mm dry mortar thickness on smooth substrates. Depending on surface roughness application rates can be significantly higher.

* 1.5 kg VELOSIT RM 224 powder + 0.4 kg water, i.e. 1.9 kg mixed material per 1 mm and m^2

CLEAN UP

VELOSIT RM 224 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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