

# Concrete Patching and Cosmetics

## Vertical and Overhead Finishing Mortar

### VELOSIT® RM 224

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.

Typical application fields besides others are as follows:

- Finishing of surface defects on concrete, masonry, many natural stones and steel
- Filling of blow holes, honeycombs and surface roughness
- As a finish on concrete repair systems

VELOSIT RM 224 is applied by trowel or suitable spray equipment.

- Excellent workability especially overhead
- 30 min. working time and 15 MPa (2175 psi) compressive strength after 4 hours
- Final strength of more than 35 MPa (5075 psi) after 28 days
- Very good adhesion to properly prepared concrete and masonry
- Water curing only under hot and dry conditions required for max. 4 hours



## Rapid Setting Vertical and Overhead Repair Mortar

### VELOSIT® RM 203

VELOSIT RM 203 is a rapid setting cementitious repair mortar for various types of construction substrates. It creates a good surface for coatings and overlays.

Typical application fields besides others are as follows:

- Repair of surface defects on concrete, masonry, many natural stones and steel
- Application on horizontal and vertical incl. overhead areas
- Filling of blow holes, honeycombs and surface roughness
- Application thickness from feather-edge to 100 mm (4")
- Re-modeling of architectural features requiring a moldable mortar that can be shaved into shape

VELOSIT RM 203 is applied by trowel and is workable for approx. 10 min.

- Excellent workability especially overhead
- Fiber reinforced
- 10 min. working time and 14 MPa (2030 psi) compressive strength after 2 hours
- Final strength of more than 50 MPa (7250 psi) after 28 days
- Open to foot traffic after 1-1 ½ hours
- Very good adhesion to properly prepared concrete and masonry

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VELOSIT is a young and innovative company. We combine decades of experience in R&D, production and consulting for high performance construction materials which are fully conversant with modern construction techniques.

Our mission is to make construction faster, easier and less tedious. VELOSIT products allow you to finish your project significantly faster without compromising on quality.

VELOSIT supplies the construction industry with state-of-the-art alternative solutions. Production „made in Germany“ stands for uniform quality to the highest standards.

If you have questions - just give us a call!

We can individually tailor a suitable solution for you. Our service and technical support will gladly help.

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New Standards in Restoration

# Concrete Repair



The **VELOSIT** concrete repair system opens new possibilities for the finishing time frame of various projects. **VELOSIT** mortars develop similar strength levels than their concrete substrate in 24 hour or less. And all that even without water curing except for some unfavorable conditions. Our bonding bridge contains a silane based corrosion inhibitor that creates a very durable passivation layer on treated rebar.

In 2009 EN 1504-3 was harmonized in the European Union. It is the valid material standard for concrete repair products and replaces all previous national standards in most parts. EN 1504-3 distinguishes repair systems in 4 classes of which the two highest classes (R3 and R4) are geared to structural repair. **VELOSIT** restoration systems follow the classification of this standard. The main requirements are summarized in the table below:

	Structural repair		Non-structural repair	
	Class R4	Class R3	Class R2	Class R1
Compressive strength	≥ 45 MPa	≥ 25 MPa	≥ 15 MPa	≥ 10 MPa
Chloride ion content	≤ 0.05%	≤ 0.05%	≤ 0.05%	≤ 0.05%
Adhesive strength	≥ 2.0 MPa	≥ 1.5 MPa	≥ 0.8 MPa	≥ 0.8 MPa
Restrained expansion/ shrinkage	≥ 2.0 MPa	≥ 1.5 MPa	≥ 0.8 MPa	n.a.
Resistance to carbonation	≤ reference concrete (w/c = 0.45)			

## Systems for structural repair

### VELOSIT® CP 201

#### Cementitious Corrosion Protection and Concrete Primer

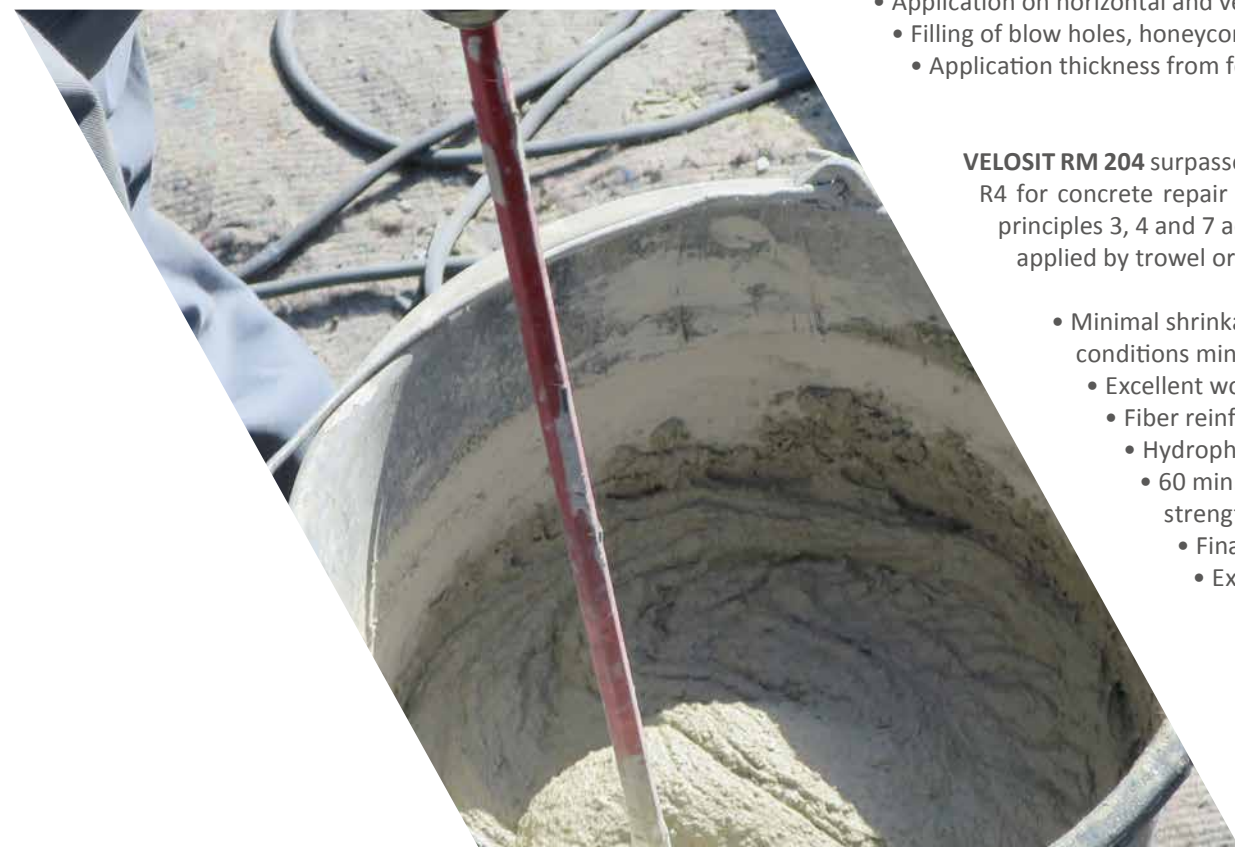
**VELOSIT CP 201** is a cementitious corrosion protection and primer for concrete, masonry and steel. It is designed as bonding bridge for the **VELOSIT RM** repair mortars on critical substrates.

Typical application fields besides others are as follows:

- Corrosion protection of concrete embedded steel like rebar
- Priming of concrete and masonry for **VELOSIT RM** mortars
- Prime coat to fill blow holes, honeycombs and surface roughness

**VELOSIT CP 201** can be applied by brush or suitable spray equipment.

- Minimal shrinkage/expansion under dry resp. wet curing conditions
- Very good adhesion to concrete and masonry



### VELOSIT® RM 205

#### Structural Concrete Repair Mortar, R4

**VELOSIT RM 205** is a cementitious repair mortar for concrete restoration acc. to EN 1504-9. It is used to fill large voids or build up larger cross-sections up to 100 mm (4").

Typical application fields besides others are as follows:

- Repair of large surface defects on concrete
- Overlays and repairs on concrete structures like dams, bridges, beams, balconies, facades
- Application on horizontal and vertical incl. overhead areas
- Application thickness from 6 mm (¼") to 100 mm (4")

**VELOSIT RM 205** surpasses the requirements of EN 1504-3 class R4 for concrete repair (CR) and can be used according to the principles 3, 4 and 7 acc. to EN 1504-9.

**VELOSIT RM 205** can be applied by trowel or suitable spray equipment.

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Excellent workability
- Wide range of water addition
- Fiber reinforced
- Hydrophobic
- 90 min. working time and 12 MPa (1740 psi) compressive strength after 4 hours
- Final strength of more than 45 MPa (6525 psi) after 28 days
- Excellent adhesion to properly prepared concrete

Typical application fields besides others are as follows:

- Repair of surface defects on concrete
- Overlays and repairs on concrete structures like dams, bridges, beams, balconies, facades
- Application on horizontal and vertical incl. overhead areas
- Filling of blow holes, honeycombs and surface roughness
- Application thickness from feather-edge to 50 mm (2")

**VELOSIT RM 204** surpasses the requirements of EN 1504-3 class R4 for concrete repair (CR) and can be used according to the principles 3, 4 and 7 acc. to EN 1504-9. **VELOSIT RM 204** can be applied by trowel or suitable spray equipment.

- Minimal shrinkage / expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Excellent workability especially overhead
- Fiber reinforced
- Hydrophobic
- 60 min. working time and 10 MPa (1450 psi) compressive strength after 4 hours
- Final strength of more than 50 MPa (7250 psi) after 28 days
- Excellent adhesion to properly prepared concrete



## Protective Coating

### VELOSIT® WP 120

#### Highly Flexible Cementitious Waterproofing Slurry

**VELOSIT WP 120** is a polymer modified cementitious waterproofing slurry for concrete and masonry. It is a good substrate for coatings and overlays. It is crack bridging and a good barrier against carbon dioxide.

Typical application fields besides others are as follows:

- Waterproofing of basements and below grade parking structures
- Waterproofing of potable water structures
- Protective coating on dams and spillways
- Coating of tanks for manure and sewage
- Waterproofing of swimming pools
- Waterproofing underneath tiles and natural stones
- Protection against rising dampness
- Waterproofing of green roofs
- Coating of trafficable flat roofs
- Also available in white as **VELOSIT WP 120 white** or with increased abrasion resistance as **VELOSIT WP 120 HD**

**VELOSIT WP 120** can be applied by brush, trowel or suitable spray equipment.

- Crack bridging
- Resists 50 m (160 ft.) water pressure acc. to EN 12390-8
- Ready for water pressure after 5 days
- Very good adhesion to concrete and masonry
- Good resistance against aggressive media with a pH range of 3-12 and against soft water with low ion content
- Good weathering and UV resistance
- Potable water approved
- Good sulfate resistance

### VELOSIT® NG 512

#### High Performance Non-Shrink Grout for 12-120 mm

**VELOSIT NG 512** is a cementitious non-shrink grout for concrete substrates. It is used to fill large voids or underneath base plates of machinery or building columns up to 125 mm (5") clearance.

Typical application fields besides others are as follows:

- Repair of large surface defects on concrete
- Filling of gaps between two concrete bodies
- Grouting of machinery and construction columns
- Application thickness from 12 mm (½") to 125 mm (5")
- Anchoring of starter bars and dowels
- Use as micro-concrete

**VELOSIT NG 512** can be poured or pumped.

- Minimal shrinkage
- Slight volume increase in the plastic stage to ensure good bond to base plates
- Excellent workability
- Fiber reinforced
- 60 min. working time and 15 MPa (2175 psi) compressive strength after 6 hours
- Final strength of more than 90 MPa (13000 psi) after 28 days in fluid consistency
- Open to foot traffic after 6 hours
- Excellent adhesion to properly prepared concrete and steel
- Minimal water penetration
- Good resistance against CO2 and Chloride penetration due to a very tight pore structure

