

VELOSIT® PR 303

2-Component Epoxy Primer And Vapor Retarder



Application fields

VELOSIT PR 303 is a universal primer for many substrates. VELOSIT PR 303 is designed for critical substrates with high moisture content or excessive water vapor emissions. Its distinguished mechanical and chemical durability makes it an ideal primer for applications with elevated requirements, especially on large slabs. Typical application fields besides others are as follows:

- Standard primer for resin flooring systems
- Moisture barrier for sensitive flooring materials and adhesives
- Primer for Polyurea coatings and joint materials
- Primer for asphalt with solvent addition
- Production of scratch coat and cove mortars

Properties

VELOSIT PR 303 is a solvent-free, 2-component epoxy resin primer.

VELOSIT PR 303 surpasses requirements of EN 1504-2 for impregnations (I) and can be used according to principle 1 acc. to EN 1504-9.

VELOSIT PR 303 can be used on horizontal and on vertical surfaces with the addition of a thixotropic agent like Cab-O-Sil M5.

- VOC and solvent free
- Low viscosity
- Very low vapor transmission rate, surpasses requirements of ASTM E96-12 for vapor retarders
- Pigmented for better visibility on the substrate
- Open to light foot traffic after 6 hours.
- Very good adhesion to metal and typical construction substrates like concrete, masonry and asphalt (with xylene addition)
- Good resistance against many chemicals, for example alkalis and diluted acids

Application

1.) Substrate preparation

a.) Steel must be prepared to a purity of SA 2&1/2 acc. SIS 05 5900.

b.) Concrete and masonry 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 open porous and load bearing. The minimum requirement for adhesive strength is 1.5 MPa (218 psi) and for the compressive strength 25 MPa (3625 psi). Lower values can be tolerated if no significant requirements to the adhesion of VELOSIT PR 303 exist. Active water leaks that would affect the primer from the negative side must be treated and fully stopped. Repair blowholes, honeycombs and other surface defects with a mortar made from 1 part VELOSIT PR 303 and 2-3 parts VELOSIT PQ 901. VELOSIT PR 303 can be applied at almost all moisture levels even in case the moisture levels in the substrate are expected to increase. Dampen absorptive substrates before applying VELOSIT PR 303 but avoid any puddles or standing water.

c.) Asphalt must be cut and ground or sandblasted. Clean the fresh edge from any dust or debris.

2.) Processing

VELOSIT PR 303 is applied by squeegee, roller or brush.

Mixing: VELOSIT PR 303 is supplied in two packs with the A- and B-component in the correct mixing ratio. Make sure the material is between 15 and 28°C (59-82°F) before mixing. Hot material may react very fast whereas too cold material has a higher viscosity and will not penetrate into the substrate as desired.

Open the A-component and stir it with a slow speed drill to evenly distribute all fillers throughout the resin.

For wall applications, add 0.5 – 2 % thixotropic agent like Cab-O-Sil M5 at this stage.

For production of a scratch coat or a cove mortar add 1 to 3 parts by weight of VELOSIT PQ 901.

Then add the full amount of B-component and continue stirring for approx. 2 min.

Fill the mixed material into a clean pail and re-stir for another 30 sec. The mix must be completely streak-free.

For priming of asphalt surfaces add 5% xylene to the mix before re-stirring.

Substrates prepared according to section 1.) must be free from dust or any other bond breaking material at the time of application.

Apply VELOSIT PR 303 with the specified application rate.

a.) Floor application: Pour mixed VELOSIT PR 303 and distribute it over the calculated area with a squeegee. Back roll for several times with a non shed roller in a 90° angle to the squeegee application. Work in sections to ensure exact coverage rate. If required for the following coat, apply a full broadcast of VELOSIT PQ 901 into the fresh coating.

b.) Wall application: Roll Cab-O-Sil modified VELOSIT PR 303 at the specified rate onto the prepared wall surface. Work in a crossing action to force material into the pores. If required for the following coat, apply a full broadcast of VELOSIT PQ 901 into the fresh coating.

c.) Mortar application: Mortars made with VELOSIT PR 303 and PQ 901 are applied by trowel. Use a rounded cove trowel to produce concave moldings with the mortar.

3.) Curing

VELOSIT PR 303 does not require curing and can be over-coated within 4-6 h after application. VELOSIT PR 303 may yellow slightly under UV light, which does not impose any reduction in physical or chemical properties. As VELOSIT PR 303 receives a coating very quickly if used as intended the UV exposure is not relevant.

Estimating

Priming of concrete:

VELOSIT PR 303: 0.6 kg/m²

Priming of concrete with broadcast:

VELOSIT PR 303: 0.6 kg/m²

VELOSIT PQ 901: 0.8 kg/m²

Mortar mix per liter (gal.):

VELOSIT PR 303: 0.6 kg (5 lbs.)
VELOSIT PQ 901: 1.2 kg (10 lbs.)

Cleaning

VELOSIT PR 303 can be removed in the fresh state with solvents like naphta. Once it has cured only mechanical cleaning is possible.

Quality features

	Komp. A	Komp. B
Color:	silvergray	yellow
Density:	1.7 kg/l	1.0 kg/l
Viscosity mixed 23°C, mPas:	600	
Mixing ratio by weight:	100 A + 15.2 B	
Pot life, 23°C:	35 min.	
Substrate temperature:	10 – 35°C* (50-95°F)	
	* observe dew point!	
Capillary water absorption:	<0.01 kg/m ² x h ^{0,5}	
Adhesive strength on		
- Concrete:	2.9 MPa (420 psi) (concrete failure)	
Penetration depth:	> 5mm	
Water vapor diffusion rate at 0.5 kg/m ² acc. to ASTM E96-05, wet cup method:		
Permeance:	< 0.06 g/(m ² x 24h x mm Hg) < 0.1 grain/(ft ² x h x in. Hg)	
Shore A hardness, 7d:	>90	
Chemical resistance acc. EN ISO 868g)		
- NaCl:	28 d, class II	
- Caustic potash 20%:	28 d, class II	
- Sulfuric acid, 5%:	28 d, class II	
- Hydrochloric acid, 32%:	3 d, class I	
- Diesel fuel:	28 d, class II	
Fire rating EN13501-1:	Class E	

Packaging

VELOSIT PR 303 is available in 25 kg (55 lb.) packs with

- A-component at 21.7 kg (47.7 lb.)
- B-component at 3.3 kg (7.3 lb.)

Storage

VELOSIT PR 303 can be stored in unopened original packs for 24 months at 15-25°C (59-77°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.

Used product containers must be emptied completely after use. They can be returned to VELOSIT GmbH & Co. KG on request.

Recommendations

VELOSIT PR 303 is only available for professional applicators.

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.

Effective date

July 2016

Manufacturer

VELOSIT GmbH & Co. KG
Industriepark 7
32805 Horn-Bad Meinberg
Germany