

VELOSIT® PU 412

1-Component,
Economic
Solvent-based
Polyurethane
Primer & Sealer



Application fields

VELOSIT PU 412 is an economic, solvent-based, elastic polyurethane primer for polyurethane coatings or as an economic concrete sealer.

VELOSIT PU 412 provides excellent adhesion to both non-porous and porous substrates especially in humid areas where moisture is an issue (can be applied on moist concrete surfaces). Typical application fields include:

- Adhesion primer on Concrete and masonry
- Adhesion primer on steel & glass
- Sealer for absorptive substrates

Properties

VELOSIT PU 412 is a solvent-based, 1-component polyurethane primer with excellent adhesion to a wide variety of construction substrates including concrete (including green concrete), ceramic tiles, glass, marble and a wide range of metals.

Because of its low viscosity, VELOSIT PU 412 penetrates well into porous substrates resulting in good adhesion.

VELOSIT PU 412 is characterized as:

- Economic
- One component
- Good paint-over time
- Excellent elongation (300%)
- Excellent penetrating & wetting properties
- Excellent adhesion
- Good coverage rate
- Can be applied on dry or moist surfaces
- Resistant against water and frost

Application

1.) Substrate preparation

a.) 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.

Surfaces must be open porous and load bearing.

The surface should have a minimum adhesive strength of 1 MPa (145 psi) and compressive strength of 20 MPa (2900 psi). Lower values can be tolerated if no significant requirements to the adhesion of VELOSIT PU 412 are specified.

Active water leaks affect the waterproofing and must be permanently stopped. VELOSIT PU 412 is suitable for substrates with a humidity of max. 85 % and a water vapour emission rate below 0.8 g/m²h (4 lbs./24h x 1000 ft²).

VELOSIT PU 412 is ready to receive the coating after 12 hours of curing. At higher moisture levels or in case the moisture levels in the substrate are expected to increase than the above limits, priming must be done with VELOSIT PR 303 including a full broadcast with suitable quartz sand 0.7 mm – 1.25 mm.

b.) Old polyurethane insulating foams or extruded polystyrene insulation boards must be fully adhered to the substrate and free from bond breaking substances before application of VELOSIT PU 412.

2.) Processing

VELOSIT PU 412 can be applied by brush or a lamb wool roller in the specified application rate on the prepared substrate as stated above. VELOSIT PU 412 can be coated as soon as the surface has just dried from tackiness and is not giving off any solvent odour. Do not wait more than 24 h as the reactive groups will need to be reactivated.

3.) Curing

VELOSIT PU 412 does not require curing and can be over-coated after 12 hours of application in outdoor areas and longer in confined but well-ventilated areas. It is not recommended in closed or unventilated areas. VELOSIT PU 412 may yellow slightly under UV light but this does not reduce its physical or chemical properties. As VELOSIT PU 412 receives a coating within 24 hours of its application, the UV exposure is not relevant.

Estimating

Coverage depends mainly on the porosity and levelness of the surface. Approximate coverage 20 kg pail:

Primer for PU coatings	
over concrete:	150 m ² (0.13 kg/m ²)
over PU coat:	200 m ² (0.10 kg/m ²)
Sealer (concrete/plaster):	100 m ² (0.20 kg/m ²)

Cleaning

VELOSIT PU 412 can be removed in the fresh state with solvents like naphta. Once cured VELOSIT PU 412 can only mechanical cleaning is possible.

Quality features

Color:	Amber
Viscosity 23°C, mPas:	45 ± 5
Density:	0.95 ± 0.05
Tack-free time 23°C, 60%:	4 - 6 hours
Re-coat time 23°C, 60%:	12 - 24 hours
Substrate temperature:	5 – 50°C* (40-120°F)
	* observe dew point!
Tensile strength:	30 MPa (4351 psi)
Adhesive strength*:	4.0 MPa (580 psi)
	(concrete failure)
Fire rating EN13501-1:	Class E

Packaging

VELOSIT PU 412 is available in 20 kg pails.

Storage

VELOSIT PU 412 can be stored in unopened original packs for 9 months at 15-25°C (59-77°F) in a dry storage place protected against sunlight. Open containers must be consumed quickly.

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 PU 412 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.

Manufacturer

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