

VELOSIT® PU 454

Economic,
Thixotropic,
Low VOC,
Highly Elastomeric,
Single-Component,
Liquid Polyurethane
Membrane



Application fields

VELOSIT PU 454 is an economic, low VOC, thixotropic, single component, moisture-cured, highly elastic, liquid-applied polyurethane liquid that cures to form a UV resistant, seamless and monolithic waterproofing membrane.

VELOSIT PU 454 is brush, roller or spray applied on concrete, gypsum, cement boards, asphalt membranes, etc.

Once cured, VELOSIT PU 454 creates an elastomeric yet resilient, long lasting coat capable of accommodating movements of the underlying substrate. Typical application fields include protection and waterproofing of vertical and horizontal surfaces in:

- Flat slabs, roofs and podium slabs
- Balconies, bathrooms and toilets
- Flower boxes
- Walls
- Intricate details in important structures

- Over PU foam

Properties

VELOSIT PU 454 can be used as a stand alone final coating or may be covered with VELOSIT PU 458.

VELOSIT PU 454 offers the following advantages:

- Excellent adhesion to most substrates
- Easily applied without thinning
- Fast curing allows same day re-coating
- Highly elastic; above **450 %**
- Excellent mechanical and chemical resistance
- High abrasion and tear resistance
- Excellent UV resistance for gray or white color
- Long pot life
- Resilient
- Suitable for exposure where the membrane temperature remains below 60°C, including thick-bed tiled areas, planters and marble covered plazas
- Remains elastic even at sub-zero temperatures (down to - 35 °C)

Application

1.) Surface preparation

Substrates must have an open pore surface and sound with load-bearing capacity (at least 15 MPa) and free from cracks, dust, paint, oil or any adhesion inhibiting substances.

VELOSIT PU 454 may be applied on dry surfaces (residual moisture less than 4%). In case of higher moisture levels, surfaces must be primed.

In all cases the relative humidity should be below 85 % and substrate temperature between + 5 °C and + 35 °C.

2.) Priming and levelling

Priming

When necessary or when high levels of humidity exist, primers such as VELOSIT PU 411 or VELOSIT PR 303 may be used.

Levelling of undulations

Depending on prevailing temperatures, use VELOSIT WP 101 to level off undulations. Allow 14 hours in case of VELOSIT® WP 101 before application of VELOSIT PU 454.

3.) Processing

Gently stir VELOSIT PU 454 using a slow speed drill attached with an appropriate mixing paddle for one minute. Ensure that no air is entrapped.

Cracks

Cracks smaller than 1 mm should be concealed by embedding a 100 mm wide strip of reinforcement fabric into VELOSIT PU 454. The fabric must be centrally placed along the crack. If cracks are 1.0 mm wide or greater, saw-cut with a slight “V” shaped groove to a depth of 5 mm and a minimum width of 5 mm and fill with VELOSIT PU 418 prior to the above mentioned concealing method.

Brush/roller

Use a soft bristle brush or short knapp roller and work in two perpendicular coats observing a 6 to 24 hour waiting interval between coats @ 25 °C.

Airless spray

It may be necessary to dilute VELOSIT PU 454 with up to 10 % xylene to adjust the viscosity for spray application.

Use a suitable airless spray equipment with an appropriate nozzle and pressures of 200 to 250 bars.

4.) Protection

Protect VELOSIT PU 454 from rain for at least 6 hours after application.

5.) Curing

No curing is required. VELOSIT PU 454 is fully cured within 7 days @ 25 °C.

Estimating

Consumption depends on surface roughness and absorptivity. A 25 kg pack of VELOSIT PU 454 will typically cover 12.5 m² to 15 m² (1.6 - 2 kg/m²) in two coats.

Cleaning

VELOSIT PU 454 may be removed with xylene. Once cured, VELOSIT PU 454 can only be removed mechanically.

Quality features

Typical properties of VELOSIT PU 454 @ 25 °C:

Colours:	Black, Grey, White
Density:	1.45 kg/lit (+/- 0.5)
Viscosity (Brookfield):	4500 cP (+/- 1500)
Tack free (RH = 55%):	6 hours
Re-coat open time:	6 to 24 hours
Substrate temperature:	5 – 35 °C
Maximum Elongation (ASTM D412):	+ 450 %

Tensile strength (ASTM D412):	30 kg/cm ²
Water Vapour permeability (ASTM E96):	0.75 g/m ² h (+/- 0.05)
Adhesion to concrete (ASTM D4541):	+1.5 N/mm ²
Shore A hardness (ASTM D2240):	60
SD Value-H ₂ O:	5 m
SD Value - CO ₂ :	50 m
Service temperature:	- 35 °C to + 60 °C

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.

Packaging

VELOSIT PU 454 is available in 25 kg containers.

Storage

VELOSIT PU 454 has a minimum shelf life of 12 months when stored in original unopened containers (elevated from floor), in a dry area and away from direct sunlight where temperatures are maintained above 5 °C and below 25 °C.

Safety

Please observe the actual valid material safety data sheet and follow the described safety measures for handling of the product.

Recommendations

VELOSIT PU 454 is only available for professional applicators.

Always note that VELOSIT PU 454 is not color stable, especially the black color. For color-stable finishes on the white and gray, apply a pigmented coat of VELOSIT PU 458.

Not recommended for applications subject to heat above 60 °C, including under dark color tiles.

VELOSIT PU 454 is not suitable for swimming pools.

All described product features are determined under controlled laboratory conditions according to the relevant international standards.

Manufacturer

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