

VELOSIT® PU 455

Low-modulus,
Bitumen-Extended,
Highly Elastomeric,
Two-Component,
Liquid Polyurethane
Membrane

Application fields

VELOSIT® PU 455 is an economic, two component, chemically-cured, highly elastic, liquid-applied polyurethane liquid that cures to form a UV resistant, seamless and monolithic waterproofing membrane. VELOSIT® PU 455 is brush, roller or airless spray applied on concrete, gypsum, cement boards, asphalt membranes, etc.

Once cured, VELOSIT® PU 455 creates an elastomeric yet resilient, long lasting coat capable of accommodating dynamic crack movements. Typical application fields include protection and waterproofing of:

- Foundations, basements and rafts
- Plaza decks, podium slabs, planted roofs and flower boxes
- Balconies, bathrooms and toilets
- PU foam, metal roofs and cement board
- Defective EPDM and asphalt membranes
- Cut and cover tunnels

Properties

VELOSIT® PU 455 is an ideal waterproof coating for substrates suffering or prone to future cracking such as planted and/or tiled plaza decks/podium slabs and foot bridges.

VELOSIT® PU 455 offers the following advantages:

- Easy 1 : 1 mixing ratio
- Low consumption
- Excellent adhesion to a wide variety of substrates including metal roofs
- Easily applied without thinning
- Fast curing allows same day re-coating
- Highly elastomeric; above **1015%**
- **Used to seal large cracks prior to overall waterproofing application**
- Excellent mechanical and chemical resistance
- Good abrasion resistance and excellent tear resistance
- Root resistant
- Excellent UV resistance
- Long pot life
- Resilient

- Suitable for exposure where the membrane temperature remains below 80°C, including thick-bed tiled areas, planters and marble covered plazas
- Remains elastic even at sub-zero temperatures (down to -35°C)
- Resistant to temporary thermal shock up to 145°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 455 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 or VELOSIT® WP 102 to level off undulations. Allow 14 hours in case of VELOSIT® WP 101 and 7 hours in case of VELOSIT® WP 102 before application of VELOSIT® PU 455.

3.) Processing

Mixing

Mix equal volumes of the two components of VELOSIT® PU 455 using a slow speed drill attached with an appropriate mixing paddle until a uniform consistency is achieved.

Empty the contents into a fresh container, scrapping all semi-mixed material on the sides and bottom of the first container into the new container and continue to mix for a further 60 seconds. Ensure that no air is entrapped.

The material has a pot life of 25 to 35 minutes @ 23°C

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 455 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 455 from rain for at least 6 hours after application.

5.) Curing

No curing is required. VELOSIT® PU 455 is fully cured within 7 days @ 25°C.

Estimating

Consumption depends on surface roughness and absorptivity.

A 40 kg pack of VELOSIT® PU 455 will typically cover 36.36 m² to 26.67 m². (1.1 - 1.5 kg/m²)

Cleaning

VELOSIT® PU 455 may be removed with xylene. Once cured, VELOSIT® PU 455 can only be removed mechanically.

Quality features



Typical properties of VELOSIT® PU 455 @ 25°C:

Colour:	Black
Solids content (ASTM D1353):	89% (+/- 1%)
Density:	0.96 kg/lit (+/- 0.5)
Pot life:	25 - 35 minutes
Viscosity (Brookfield):	2500 cP (+/- 500)
Tack free (RH = 55%):	1.5 hours
Re-coat open time:	6 to 24 hours
Substrate temperature:	5 – 35°C
Maximum Elongation (ASTM D412):	+ 1015%
Tensile strength (ASTM D412):	2 N/m ²
Adhesion to concrete (ASTM D4541):	+1.4 N/mm ²
Shore A hardness (ASTM D2240):	35
Flash Point:	Above 40°C
Service temperature:	-35°C to +80°C

Packaging

VELOSIT® PU 455 is available in 40 kg and 400 kg sets at a 1 : 1 mixing ratio.

Storage

VELOSIT® PU 455 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 455 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.

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