

VELOSIT® WP 124

Flexible Cementitious Waterproofing Slurry



Application fields

VELOSIT WP 124 is a polymer modified cementitious waterproofing slurry for concrete, stone and masonry. VELOSIT WP 124 creates a good barrier against water and carbon dioxide whilst maintaining good crack bridging capabilities. VELOSIT WP 124 is a good substrate for coatings and overlays with good abrasion resistance. VELOSIT WP 124 can be processed to a flexible or semi-flexible product depending on the polymer addition.

Typical applications include waterproofing and protection of:

- Basements and below grade structures
- Potable water structures
- Dams and spillways
- Covered roofs
- Terraces and balconies below tiles and natural stone.
- Small & medium sized swimming pools

- Inaccessible and lightly trafficked roofs
- Planted roofs of residential villas

Properties

VELOSIT WP 124 is a flexible cementitious waterproofing slurry with quick curing and waterproofing in accordance with DIN 18195-2 tables 7 and 8. VELOSIT WP 124 creates a crack bridging and abrasion resistant coating on substrate.

VELOSIT WP 124 surpasses the requirements of EN 1504-2 for coatings (C) and can be used according to the principles 3.1 and 3.3 acc. to EN 1504-9.

VELOSIT WP 124 can be easily applied by brush, trowel or suitable spray equipment.

- Crack bridging
- High flexibility, tensile elongation > 60% (25A+8B)
- Resists 50 m (160 ft.) water pressure according to EN 12390-8
- 60 min. working time

The logo for Velosit, featuring a stylized 'V' symbol followed by the word 'velosit' in a lowercase, sans-serif font.

- Final strength is achieved within 7 days
- Open to foot traffic after 5 hours (23°C/RH 60%)
- 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 resistance
- Potable water approved
- Improved sulphate resistance

Application

1.) Substrate preparation

VELOSIT WP 124 is designed for substrates like concrete, masonry or absorptive natural stones.

Substrate must be prepared with sand blasting, shot blasting or ideally high pressure water blasting (>100 bar/1450 psi) to remove all bond breaking substances.

Substrate must be pore open 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 strength values can be accept if lower adhesive strength is acceptable. Active water leaks must be treated and fully stopped with VELOSIT PC 221. Leaking cracks need to be sealed with a PU injection material. Blowholes, honeycombs or other surface defects can be filled with VELOSIT WP 101 or the repair mortar VELOSIT RM 202. Before application, pre-dampen the substrate with plenty of clean water to a saturated surface dry (SSD) condition.

Details:

a.) The wall-slab-detail can be solved with a hand applied cove using VELOSIT WP 101 or RM 202.

Alternatively use VELOSIT DB 830 joint tape which can be fixed in place with VELOSIT WP 124 or with VELOSIT DK 701, joint tape adhesive.

b.) Negative waterproofing: In case of expected negative hydrostatic pressure effects, apply VELOSIT WP 101 or WP 102 at a minimum thickness of 1 mm (40 mils) prior to the application of VELOSIT WP 124.

c.) Joints and dynamic cracks must be sealed with VELOSIT DB 830 joint tape. This is carried out using VELOSIT WP 124 or DK 701.

d.) Pipe penetrations are waterproofed with a VELOSIT DB 830 sleeve. Cut a hole into the sleeve with a diameter approx. 6 mm (¼") smaller than the pipe.

The sleeve is made from a 12 cm (5") piece of VELOSIT DB 830. Thoroughly abrade and clean a 20mm strip of the pipe where it penetrates the substrate. Brush plenty of VELOSIT WP 124 onto the abraded pipe and the surrounding area. Pull the sleeve over the pipe push it with a trowel into the material. Work away from the pipe and take care not to entrap air or create wrinkles.

2.) Processing

Mixing:

Flexible coating: Pour 8 kg B-component of VELOSIT WP 124 into a suitable bucket and mix 25 kg powder with a slow speed drill (300-600 rpm) into the dispersion until a lump-free mix is achieved. Add up to 1 l (0.3 gal) water under stirring to adjust the desired consistency.

Semi-flexible coating: Pour 4 kg B-component of VELOSIT WP 124 into a suitable bucket and mix 25 kg powder with a slow speed drill (300-600 rpm) into the dispersion until a lump-free mix is achieved. Add 1.5-2.5 l (0.4-0.7 gal) water under stirring to adjust the desired consistency.

Water addition extends the cure time and should be kept as low as possible.

The product is workable for 45-60 min. at 23°C.

a.) Brush application: Apply the first coat with a masons brush in a crossing applications to the

pre-dampened substrate at the specified rate. Second coat can be applied after the first one has gained sufficient strength which is after 3 hours at 23°C. Colder temperatures extend, warmer temperatures shorten this time.

b.) If building code or specification does not require two coats, VELOSIT WP 124 can be applied in one coat by trowel. Make sure to adjust the consistency to a thixotropic workability without water addition. Apply a scratch coat of VELOSIT WP 124 to the damp substrate to fill surface irregularities. Immediately apply the desired material amount with a notched trowel to the substrate. 2 mm (80 mils) dry film thickness can be achieved with a 6 mm (¼”) notch size and application at a 45° angle. Finish the surface immediately afterwards. Make sure all grooves are completely closed without air entrapment.

c.) Spray application: Use suitable spray machines such as:

- Inotec GmbH: INOMAT-M8
- HighTech GmbH: HighPump Small
- Desoi GmbH: Desoi SP-Y

Fill the product into the feed hopper of the spray machine and spray continuously. VELOSIT WP 124 can be applied in one lift if specification allows. Otherwise spray in two layers with a wait time of approx. 60 min. between coats. Long spray interruptions may result in clogging of the spray hose. The product may cure a lot faster if the hose is exposed to direct sunlight. Always empty and flush the machine after spraying or before long spray interruptions. VELOSIT WP 124 is a fast curing material and may be hard to remove if left in the machine.

3.) Curing

VELOSIT WP 124 does not require long term curing as it reacts relatively fast with water from the B-component. Avoid direct sun light or wind or air flow after the application. Otherwise it is mandatory to work in two coats to avoid shrinkage cracks.

Estimating

Brush application 2 mm:

1st coat VELOSIT WP 124: 1.9 kg/m²
 2nd coat VELOSIT WP 124: 1.9 kg/m²

Trowel application 2 mm
 Scratch coat VELOSIT WP 124: 0-0.5kg/m²
 2nd coat VELOSIT WP 124: 3.5-3.8kg/m²

Spray application 2 mm:
 VELOSIT WP 124: 3.4 kg/m²

Other thickness requirements: 1.9 kg VELOSIT WP 124 per m² (3.9 lbs. per 10 ft²) for 1 mm (40 mils) dry film thickness on smooth substrates. Depending on surface roughness application rates can be significantly higher.

Recommended thickness:
 Dampproofing: 1.25 mm (50 mils)
 < 25cm (5”) water: 1.5 mm (60 mils)
 Hydrostatic pressure: 2.0 mm (80 mils)
 Hydrostatic pressure and water flow or light mechanical abrasion: 2.5 mm (100 mils)

Always observe building code or specification requirements!

Cleaning

VELOSIT WP 124 can be removed in the fresh state with water. Once it has cured mechanical cleaning is required.

Quality features

Flexible Coating:

Color: Gray
 Mixing ratio by weight: 100 : 32
 Bulk density-Comp.A: 1.7 kg/l
 Substrate temperature: 5 – 35°C*
 (40-95°F)

Water impermeability: EN 12390-8
 - Positive side: 5 bar
 (73 psi)
 - Negative side: 1.5 bar
 (22 psi)

Tensile strength: 1.0 MPa
 (145 psi)

Tensile elongation: 60%

Crack bridging:

Acc. ASTM C836: 2.4 mm (96 mils)
 S_D-value_{water}, 2mm (80 mils): 3 m (10')



S _D -value _{CO2} , 2mm (80 mils):	250 m (820')
Chloride ions:	< 0.05%
Carbonation resistance:	passed
Capillary water absorption:	0.02 kg/m ² x h ^{0.5}
Adhesive strength:	1.0 MPa (145 psi)

Semi-flexible coating

Color:	Gray
Mixing ratio by weight:	100 : 16
Bulk density-Comp.A:	1.7 kg/l
Substrate temperature:	5 – 35°C* (40-95°F)
Water impermeability:	EN 12390-8
- Positive side:	5 bar (73 psi)
- Negative side:	5 bar (73 psi)
Tensile strength:	2.0 MPa (290 psi)
Tensile elongation:	8%
Crack bridging:	
Acc. ASTM C836:	0.6 mm (24 mils)
Adhesive strength:	2.0 MPa (290 psi)

Packaging

The components of VELOSIT WP 124 are supplied separately. The A-component is available in 25 kg (55 lb.) watertight plastic bags. The B-component is available in 8 Litre (2.08 gal) or 4 liter (1.04 gal.) plastic pails.

Storage

VELOSIT WP 124 can be stored in unopened original packs for 12 months at 5-35°C (40-95°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 WP 124 is only available for professional applicators.

Never add water to VELOSIT WP 124 when it has started to set. Stiffened material must be disposed.

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

November 2015

Manufacturer

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