VELOSIT® WP120 HD

FLEXIBLE CEMENTITIOUS DECORATIVE WATERPROOFING

Product Description

VELOSIT WP 120 HD is a polymer modified cementitious decorative waterproofing slurry for concrete and masonry. It is crack bridging and a good barrier against carbon dioxide. VELOSIT WP 120 HD is a highly flexible cementitious waterproofing slurry with quick curing. VELOSIT WP 120 HD creates a crack bridging and abrasion resistant coating on the substrate. VELOSIT WP 120 HD is the result of many years in the field testing and research.

Typical Applications

Waterproofing

- Of residential parking structures
- Of patio decks
- Of pedestrian areas
- Of swimming pools

Coating

- Of stadium bleachers
- Of traffic-able flat roofs

Protection

- Of coating against CO_2-ingress
- Of against rising dampness

Properties

- Crack bridging
- Highly flexible, tensile elongation > 50 %
- Easy to apply
- Resists 50 m water pressure acc. To EN 12390-8
- 60 min. working time
- Final strength is achieved within 5 – 7 days
- Open to foot traffic after 3 – 4 hours (23 °C/60 % r.h.)
- 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, UV resistance and sulfate resistance

Technical data

Colour	White	**Tensile strength**	1.2 MPa
Mixing ratio by weight	100 : 40	**Crack bridging**	Acc. DIN 28052-6: 0.4mm / 24h
Mixing ratio by volume	100 : 52	**Tensile elongation**	55%
Density A-comp	1.7 kg/L	**S_D-value$_{water}$, 2 mm**	2.0 m
Substrate temperature	5 - 35°C	**S_D-value$_{CO_2}$ 2 mm**	> 100 m
Water impermeability Acc. EN 12390-8	Positive side: 5 bar Negative size: 1.5 bar	**Adhesive strength**	1.1 MPa

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APPLICATION GUIDELINES

Surface Preparation

VELOSIT WP 120 HD is designed for mineralic 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) to remove all bond breaking substances. Substrate must be pore open and load bearing. The minimum requirement for adhesive strength is 1.5 MPa and for the compressive strength 25 MPa. Lower strength values can be accepted 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 the application of VELOSIT WP 120 HD, dampen the substrate with clean water to a saturated surface dry (SSD) condition.

Details

A. **Negative waterproofing:** In case hydrostatic pressure effects VELOSIT WP 120 HD or may effect in the future from the reverse side a negative side waterproofing must be applied with at least 1 mm VELOSIT WP 101

B. **The wall-slab-detail**: Can be solved with a cove made with VELOSIT WP 101 or RM 202 or alternatively with a joint tape VELOSIT DB 830. The joint tape can be applied with VELOSIT WP 121 or VELOSIT WP 120 HD.

C. **Joints and dynamic cracks** must be waterproofed with VELOSIT DB 830. The joint tape may be applied with or VELOSIT WP 120 HD

D. **Pipe penetrations** are waterproofed with a sleeve made from VELOSIT DB 830. Cut a hole into the sleeve with a diameter approx. 6 mm smaller than the pipe. The sleeve is made from a 12 cm piece of VELOSIT DB 830. Brush plenty of VELOSIT WP 120 HD onto the 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.

Mixing

Pour 2/3 the B-component of VELOSIT WP 120 HD into a suitable bucket and mix the powder with a slow speed drill (300 – 600 rpm) into the dispersion until a lump-free mix is achieved. If pigments are used blend them into the mix at this stage until a streak free mix is achieved. Add the remaining B-comp. And additionally up to 1 l 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.

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.

Trowel application

If building code or specification does not require two coats, VELOSIT WP 120 HD 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 120 HD 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 (Ð”) notch size and application at a 45° angle. Finish the surface immediately afterwards. Make sure all grooves are completely closed without air entrapment..

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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 120 HD 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 120 HD is a fast curing material and may be hard to remove if left in the machine.

Curing

VELOSIT WP 120 HD 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 120 HD: 1.7 kg/m² 2nd Coat VELOSIT WP 120 HD 1.7 kg/m²
Trowel application 2 mm	Scratch Coat VELOSIT WP 120 HD: 0 - 0.5 kg/m² 2nd Coat VELOSIT WP 120 HD: 2.9 - 3.4 kg/m²
Spray application 2 mm:	VELOSIT WP 120 HD: 3.4 kg/m²

Other thickness requirements: 1.7 kg VELOSIT WP 120 HD per m² for 1 mm dry film thickness on smooth substrates. Depending on surface roughness application rates can be significantly higher.

Recommended thickness	
Pedestrian traffic	2.0 mm
Light vehicular traffic	2.5 mm

Always observe building code or specification requirements!

CLEAN UP

VELOSIT WP 120 HD can be removed in the fresh state with water. Once it has cured mechanical cleaning is required.

PACKAGING

The A-component is available in 25 kg watertight plastic bags. The B-component is packages in 10L plastic pails.

STORAGE

In unopened original packs for 12 months at 5 – 35 °C 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.

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Warranties and Disclaimers

Hychem warrants that this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper use and application of the product by the applicator. Hychem has no role in the application of the finished polymer other than to manufacture and supply its components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of spray equipment and application of sol-gel materials. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by Hychem and executed under seal by a company officer.

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