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Institut für Baustoffe, Massivbau und Brandschutz | Materialprüfanstalt für das Bauwesen

General building authority test certificate

-TRANSLATION-

Test certificate number:	P-1203/757/22 MPA BS
Subject:	"VELOSIT®WS 801“ Quellband for use as an interior joint sealing for construction joints in concrete components with a high resistance to water penetration in areas in contact with soil in accordance with the Administrative Provisions – Technical Building Rules seq. No. C 3.30
Applicant:	VELOSIT GmbH & Co. KG Industriepark 5 - 7 D-32805 Horn-Bad Meinberg
Issue date:	25/08/2022
Valid until:	24/08/2027

This general building authority test certificate consists of 7 pages and 3 annexes.

This translation is not checked by the testing laboratory. The legally binding text is the German authority test certificate. This translation may not used in the German building control procedure.

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Notified body (0761-CPR) – Approved as a civil engineering testing, inspection and certifying body as well as notified as a civil engineering testing and certifying body.

A General provisions

(1) This general building authority test certificate demonstrates the usability of the construction product within the meaning of the German State Building Codes.

(2) The general building authority test certificate does not replace the permits, approvals and certificates required by law for the execution of construction projects.

(3) The general building authority test certificate is granted without prejudice to the rights of third parties, especially private property rights.

(4) Without prejudice to any further regulations under the "Special provisions" section, manufacturers and distributors of the construction product must provide the user of the construction product with copies of the general building authority test certificate and point out that the general building authority test certificate must be available at the application site. On request, copies of the general building authority test certificate shall be made available to the authorities concerned.

(5) The general building authority test certificate may only be reproduced in full. Publication of excerpts requires the consent of the Braunschweig Civil Engineering Materials Testing Institute (MPA Braunschweig). Texts and drawings of advertising material must not contradict the general building authority test certificate. Translations of the general building authority test certificate must bear the following notice: “This translation of the German original document has not been checked by the MPA Braunschweig”.

(6) The general building authority test certificate may be revoked at any time. The provisions may be supplemented or amended subsequently, especially if this is required due to new technical knowledge.

B Special provisions

1 Subject and field of application

1.1 Subject

This general building authority test certificate applies to the production and application of the "VELOSIT®WS 801“ Quellband in conjunction with the "Soudal Fix All High Tack" adhesive as an interior sealing for construction joints in concrete components with a high resistance to water penetration in areas in contact with the soil in accordance with the Administrative Provisions – Technical Building Rules seq. No. C 3.30.

1.2 Field of application

The waterstop may be used for the interior sealing of construction joints in concrete components with a high resistance to water penetration with a maximum opening width of 0.25 mm against:

- Ground moisture and non-pressing water
- Pressing water up to a maximum water pressure of 2.0 bar (20 m water column).

The waterstop is suitable for water exchange areas. The sealing fulfils the requirements of use class A for wear class 1 and 2 in accordance with the German directive for water impermeable concrete structures (WU-Richtlinie)[1].

The waterstop shall always be installed in accordance with the specifications under 4 (Implementation). The sealing is based on the swelling effect of the waterstop.

2 Provisions for the construction product

2.1 Composition, characteristics and properties

The blue "VELOSIT®WS 801“ Quellband is a polymer-based sealant and is manufactured with the cross-sectional dimensions 20 mm x 5 mm (width x max. height). The one-component adhesive "Soudal Fix All High Tack" is based on a silane-modified polymer.

The construction products have the characteristics listed in Table 1 and Annexes 1 and 2 and shall correspond to same.

The usability as a waterstop for the sealing of construction joints in concrete components with a high resistance to water penetration was verified in accordance with the testing principles for the granting of general building authority test certificates for joint sealing systems in components made from concrete, among other things, with a high resistance to water penetration in areas in contact with soil, PG-FBB, Part 1, "Version September 2017". The results are documented in test report no. 1203/756/22 prepared by MPA Braunschweig.

The construction joints sealed using the waterstop are sufficient for the fields of application listed under Section 1.2 in terms of their

[1] Directive by the German Committee for Reinforced Concrete "Water-impermeable concrete structures", Issue December 2017

- watertightness to a water pressure of 2.0 bar with a maximum joint opening of 0.25 mm between adjacent components
- permanently prevent water from running behind
- resistance to ageing

The construction product fulfils the requirements for construction materials of class *E* in accordance with DIN EN 13501-1.

2.2 Manufacture, packaging, transport, storage and marking

2.2.1 Manufacture

The construction products are factory-produced.

2.2.2 Packaging, transport and storage

The waterstop is packaged using cardboard boxes. Transport and storage must ensure that the mode of action of the waterstop and adhesive is unaffected. The materials must be protected against frost and weather influences.

The information provided on the packaging in relation to requirements arising from other legal areas must be observed.

The manufacturer's instructions must be observed in relation to the storage duration. Related system components must be clearly marked and sold together.

2.2.3 Markings

2.2.3.1 National conformity mark (Ü-Zeichen)

The construction products must be marked with the national conformity mark (Ü-Zeichen) by the manufacturer in accordance with the Conformity Marking Ordinance of the federal states. The national conformity mark (Ü-Zeichen) with the information prescribed there:

- Name of manufacturer
- Number of the general building authority test certificate

is to be applied to the packaging or, if this is not possible, to the packing slip. The mark may only be applied if the requirements in accordance with Section 3 are fulfilled.

2.2.3.2 Additional information

The following information must be included on the packaging of the construction product or the packing slip:

- Product name
- Batch number
- Intended use
- Reference to the associated processing regulations

3 Attestation of conformity

3.1 General details

Conformity of the construction product with the provisions of this general building authority test certificate must be provided for every manufacturing plant with a declaration of conformity by the manufacturer on the basis of the initial test and the factory production control in accordance with 3.2 and 3.3. The declaration of conformity shall be provided by the manufacturer by labelling the construction product with the conformity marking ("Ü-Zeichen") in accordance with 2.2.3.1.

3.2 Initial test of the construction product by a recognised testing centre

As part of the initial test, the tests of the characteristic values in accordance with Table 1 shall be carried out. The test values may not deviate from the reference values by more than the tolerances specified there.

The initial test of the product can be omitted, if the samples for the tests were taken from current production of the manufacturing plant as part of the usability certification.

If there are changes to the production conditions, a new initial test must be carried out.

3.3 Factory production control

A factory production control system shall be set up and implemented in the manufacturing plant in accordance with DIN 18200.

The factory production control shall be carried out in accordance with the provisions of the specifications listed in Table 1, adapted to the product and its production conditions. The specified requirements are based on the results of the basic test.

The results from the factory production control are recorded and evaluated by the manufacturer. The records shall at least include the following information:

- Product designation
- Type of monitoring
- Date of manufacture and test
- Result of monitoring and comparison with requirements
- Signature of the person responsible for factory production control

The records shall be kept for at least five years and shall be submitted on request.

If the monitoring results are unsatisfactory, the manufacturer shall immediately take the necessary measures to remedy the defect. Construction products which do not meet the requirements shall be handled in such a manner that they cannot be mixed up with compliant products which are free from defects. After the defect has been remedied, the respective test shall be repeated, if this is required to verify that the defect has been eliminated.

Table 1: Type and frequency of the test to be carried out as part of the factory production control

Properties	Test conditions	Requirements	Frequency
VELOSIT®WS 801			
Check of source materials	Manufacturer's declarations or suitable tests	no indication of changes	per batch supplied
Thickness (max.) width	- -	5.2 mm ± 5% 20.2 mm ± 5% Annex 1	per batch
Mass	-	108 g/m ± 3%	per batch
Swelling capacity (Mass increase)	7 d distilled Water storage	790% by mass ± 10%	per batch
Soudal Fix All High Tack			
Check of source materials	Manufacturer's declarations or suitable tests	no indication of changes	per batch supplied
Density	DIN EN ISO 1183-1, dipping method	1.50 g/cm³ ± 3%	per batch
Infrared spectrum	see Annex 2	no indication of changes	per batch

4 Implementation

In the joint area, the concrete surface shall be dry, level, clean and free from loose parts, cement slurries and separating agents. The waterstop shall always be bonded to the entire hardened concrete surface using Soudal Fix All High Tack. The waterstop shall be checked for a secure fit and premature swelling just before concreting.

The DBV data sheet "Injection hose systems and hydrophilic linings for construction joints", version December 2020, the installation instructions (Annex 3) and the technical data sheet of the adhesive "Soudal Fix All High Tack" shall apply to the design and installation works.

5 Legal basis

This general building authority test certificate is granted on the basis of Article 19 of the Lower Saxony Building Code (NBauO) in conjunction with the Administrative Provisions – Technical Building Rules, seq. No. C 3.30.

6 Legal remedies

An objection can be raised against this general building authority test certificate within one month of issue. The objection must be filed in writing or for the record with the management of the Civil Engineering Materials Testing Institute, Beethovenstraße 52, 38106 Braunschweig, Germany. The date of receipt of the notice of objection at the testing centre shall be decisive when determining whether the objection has been made in due time.

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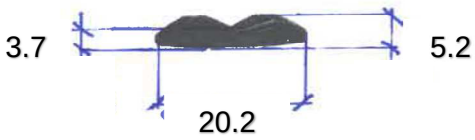
Dr.-Ing. K. Herrmann
Head of Testing Laboratory

i.A.
M. Pankalla
Engineer/Official in Charge

Properties of the "VELOSIT®WS 801“ Quellband

- Outer characteristics: dark blue, rubber-like elastic, homogeneous
- Cross-section (dimensions in mm):



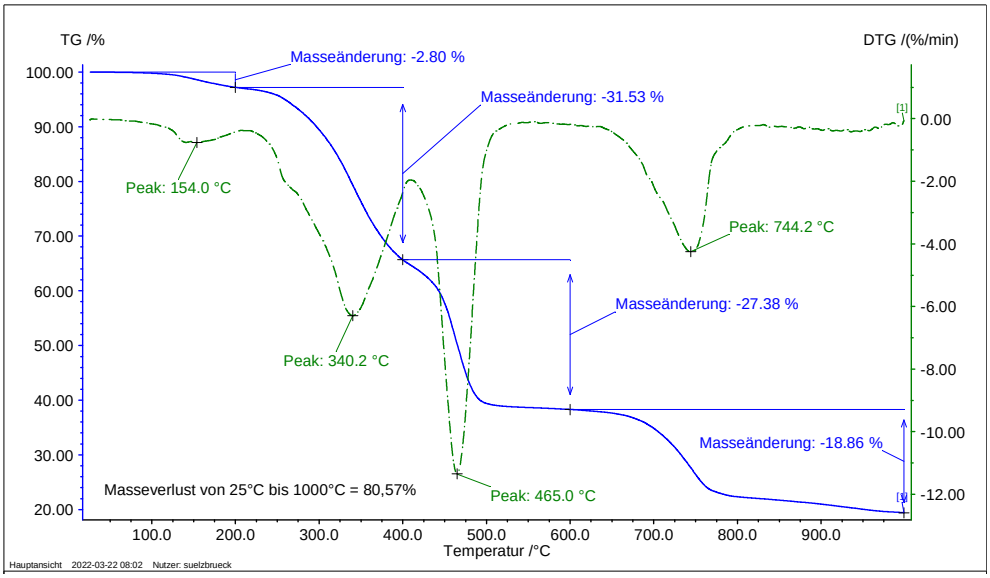
- Density: 1.24 g/cm³
- Mass loss: 80.2% by mass
  (TGA, 25 °C to 1,000 °C) (see Annex 2)
- Swelling capacity after (weight increase)
  – Alkali storage: 10 d = 448% by mass
  – Acid storage (pH 4.5): 10 d = 324% by mass
  – Distilled water storage: 8 d = 796% by mass
- Swelling pressure: 1.44 N/mm²
- Fire properties: Class *E* in accordance with DIN EN 13501-1

Properties of the "Soudal Fix All High Tack" adhesive

- Outer characteristics: sticky, soft, homogeneous
- Density: 1.50 g/cm³
- IR spectrum: see Annex 2

Thermogravimetric analysis **VELOSIT®WS 801**

The thermogravimetric analysis was performed on the basis of DIN EN ISO 11358. The heat-up rate was 10 K/min. Measurements were determined in a nitrogen atmosphere in the temperature range from 25 ° to 1,000 °C.



IR spectrum **Waterstop adhesive**

The infrared spectrum was recorded in a wave number range between 4,000 cm^{-1} and 600 cm^{-1}. The coating thickness was selected to comply with the requirements of DIN EN 1767 in relation to the extinction ratios.

Manufacturer's installation instructions

- Before installation, the waterstop should best be stored in its original packaging and kept dry.
- The substrate shall be dry, level and free from loose parts, cement slurries and separating agents.
- To prevent water seeping underneath, the waterstop with the "Soudal Fix All High Tack" adhesive shall be bonded to the entire surface of the substrate.
- The waterstop is affixed in the centre of the joint on both the internal and external reinforcement with a clearance of approx. 8 cm. For thicker components, the waterstop can be placed within the range of 1/3 t to 1/2 t of the component thickness t – in relation to the exposed side.
- Joint areas are butt-jointed at a mitre angle of 45 degrees.
- The waterstop shall be checked for a secure fit and premature swelling before concreting.

The rules and instructions in accordance with DIN EN 1992, DIN 1045, German directive for water impermeable concrete structures (WU-Richtlinie) and DBV data sheets must be observed for the joint design and production.