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The accreditation applies to the test methods listed in the certificate.

DAP-PL-4077.00



Business division V - Civil and underground engineering  
Head of Business division: Prof. Dr.-Ing. Olaf Selle

Work Group: Building Structure Sealing

## General Building Supervisory Test Certificate

Test certificate number:

**P-SAC 02 / 2.2 / 07 - 286**

Object:

**DRYset injection profile**

a single-channel injection profile with a foamed material layer for the inside sealing of working joints in building components made of concrete with high water penetration resistance as per building regulations list A, part 2, consecutive no. 1.4

Applicant:

Drytech Group AG Heidiland  
Landstraße 25  
CH – 7304 Maienfeld

Date issued:

31/01/2008

Applicable to:

30/01/2013

The above mentioned object can be used as defined by the State Building Codes on the basis of this general building supervisory test certificate.

This general building supervisory test certificate includes 7 pages and 1 annex.

-This translation of the original German version not checked by MFPA Leipzig-

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für das Bauwesen Leipzig mbH  
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## 1 Object and area of application

### 1.1 Object

The general building supervisory test certificate applies to manufacturing and using the *DRYset injection profile* from the company Drytech Group AG Heidiland as an inside sealing system for working joints in building components made of concrete with high water penetration resistance as per building regulations list A, part 2, consecutive number 1.4, edition 2007/2: „Normally Inflammable Joint Seals for Building Components Made of Concrete with High Water Penetration Resistance against Pressurising and Non-Pressurising Water and Soil Moisture“ (Normalentflammbare Fugenabdichtungen für Bauteile aus Beton mit hohem Wassereindringwiderstand gegen drückendes und nicht drückendes Wasser und gegen Bodenfeuchtigkeit). The U-shaped orange-coloured injection profile with a formed semicircular transport channel is linked with a yellow rectangular foamed material profile. The sealing system consists of the injection channel and the sealing injection material based upon *DRYflex 7* polyurethane.

### 1.2 Area of application

- (1) The injection system may be used for sealing working joints in building components made of concrete with high water penetration resistance against:

soil moisture and against

non-pressurising and pressurising water up to a maximum water pressure of 2 bar (equals 20 m of immersion depth)

using *DRYflex 7* polyurethane resin. This system is suited for alternate water zones<sup>1)</sup>.

The seal satisfies the requirements of utilisation class A for the loading classes 1 and 2 in conformity with the WU guideline<sup>1</sup>.

- (2) It should be used complying with the above manufacturer's processing instructions and following all of the technical rules applying to the specific case of application. The injection channel has to be laid in the middle of the working joint or at a distance of approximately 20 cm from the building structure side away from the water with building component thicknesses > 40 cm. It should be positioned with percussion dowels as per



the installation help and the processing instructions so that it cannot change its position when concreting. The distance of the fastening points should not be any more than 30 cm (specified drillholes) in the direction of installation. If the subgrade is uneven, the spacing between fastenings has to be halved in the longitudinal direction.

In any event, it has to be guaranteed that the entire surface of the channel is on the subgrade. The length of the single channel may not be in excess of 6 m. The channel sections are injected through drillholes where injection packers are inserted, or through the grouting ends. The installation instructions of the applicant are binding in terms of installation position, overlapping and the requirements made of the subgrade (Annex 1 and Annex 2). They should also be complied with when processing and injecting the *DRYset injection profile* including the instructions of the DBV Technical Information Leaflet „Grouted Injection Hoses for Working Joints (Verpresste Injektionsschläuche für Arbeitsfugen)“, version of June 1996.

## **2 Determinations for the structural product**

### **2.1 Properties and composition**

(1) The *DRYset injection profile* is a U-shaped rectangular cross-section with dimensions of 30 mm x 10 mm and a transport channel formed and rounded on the upper side that is attached to a flexible branch-shaped foamed material layer (dimensions: 25 mm x 20 mm). While the orange-coloured U-profile is made of HDPE, the manufacturer states that the yellow foam profile is based on polyester. The bonding depth of the foamed material in the plastic profile is 10 mm.

(2) The *DRYset injection profile* is offered in 2 m long elements. Special connecting components (*connecting pieces, angles and end pieces*) should be used for connecting single elements to one another and finishing off on the section ends. The injection material to be used for the sealing injection of *DRYset injection profile* is *DRYflex 7*, a two-component resin based upon polyurethane.

The way the injection hose is built guarantees that no cement enters into the channel cross-section exposed to maximum cement sludges from outside when cementing. The injection system can be used in real-life practice up to a water pressure of 2 bar

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<sup>1</sup> DAfStb guideline: Waterproof structures made of concrete (WU-Richtlinie: Wasserundurchlässige Bauwerke aus Beton), edition of November 2003



(equalling a 20 m water column) applying a safety co-efficient of 2.5 with the functionality documented in a test of sealing at 5 bar of water pressure over a period of 28 days after opening the working joint from 0 to 0.25 mm and injecting the injection substance *DRYflex 7*.

- (2) The properties described (1) were demonstrated in extensive tests. The test report P 2.2 / 07 - 286 dated 24/01/2008 contains the description of the properties of the injection material, the tests and a detailed description of the results.
- (3) *DRYset injection profile* and *DRYflex 7* have to satisfy the requirements of the materials studied in the applicability test. They must have the technical characteristic data given in the test report.

## **2.2 Manufacturing, packaging, transport, storage and labelling**

- (1) The injection material is manufactured in a factory that was specified to the test office. The injection channel was packaged in the factory of the applicant. The test office should be notified without delay of any changes in the geometry and materials or any change in the supplier companies.
- (2) *DRYset injection profile* has to be packaged, transported and stored so that it is not mechanically damaged. If it is damaged (such as perforations, bending, squeezing or cutting) including massive soiling adhering to it especially within the zone of the transport channel and the foamed material profile, the injection channel should not be used any longer and should be replaced. The packaging should be labelled with this note. The injection materials may only be used within the given shelf-life period. They should be protected from frost and heating beyond 30° when being stored and transported.
- (3) The details listed on the packaging concerning requirements specified in other areas of law must be adhered to.
- (4) The delivery slips for the product must be labelled with the conformity symbol (Ü-symbol) according to the state conformity ordinances. Labelling must only take place if the requirements of section 3, proof of conformity, are fulfilled.





### 3 Proof of conformity

#### (1) General points

In accordance with the building regulations list A, part 2, chapter 1, no. 1.4, the proof of conformity of the structural product with the requirements of this general building supervisory test certificate takes place in a declaration of conformity by the manufacturer on the basis of an in-house production control (WPK) and an examination of the structural product before confirmation of the conformity (first test - EP), carried out by a test office that is licensed to do so under building inspectorate laws (ÜHP).

#### (2) First test of the building product by a recognised test office

The first test is not necessary since the samples for the usability certification tests were taken from the manufacturing facility's production.

#### (3) In-house production control

The manufacturer is required to maintain an in-house production control in accordance with DIN 18200:2000-5. This requires constant monitoring of the production in order to ensure that the manufactured products correspond with the requirements of the general building supervisory test certificate. In-house production control includes the tests described below. The adherence to the properties described in Section 2.1 has to be checked in the manufacturing facility as follows:

injection channel:	incoming goods inspection, checking whether the channel allows passage through, dimensions, per delivery or every 1 000 m
injection materials:	in-house production control certificates of the suppliers determining the hardening property and density of the single components of each batch

The above test criteria have to be complied with. The results of the in-house production control should be recorded and analysed. These records should be stored at least 5 years and submitted to the test office at request. They form the basis of extending the period of validity.

#### **4 Conformity symbol**

- (1) The manufacturer has to label the construction product with the conformity symbol (Ü-symbol) according to the state conformity symbol ordinances. The Ü-symbol should be placed on the packaging or, if this is not possible, on the instruction leaflet with the information specified there:

- name of the manufacturer
- the number of the general building supervisory test certificate

It may only be labelled if it meets the conditions called for in Section 3.

#### **5 Legal basis**

This general building supervisory test certificate is issued on the basis of § 21a of the Saxon Building Code (SächsBO) in the version dated 18/03/1999 in connection with the Building Regulations List A, part 2, edition 2006/2. The relevant legal basis is given in the State Building Codes of the other federal states.

#### **6 Rights of recourse**

An appeal can be lodged against this general building supervisory test certificate within one month of receipt thereof. The appeal must be lodged in writing or dictated to the managing director of *Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen Leipzig mbH*, Hans - Weigel - Straße 2 b, 04319 Leipzig.

#### **7 General instructions**


- (1) This general building supervisory test certificate confirms the suitability for use of the structural product listed as object in the meaning of the State Building Code.
- (2) This general building supervisory test certificate does not replace the statutory licenses, permissions and certifications required for the implementation of a building project.
- (3) This general building supervisory test certificate is issued without prejudice to the rights of third parties, in particular private proprietary rights.

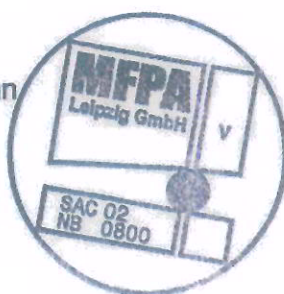


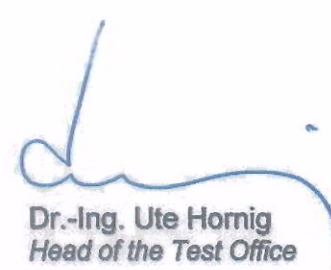


- (4) Without prejudice to additional regulations, the manufacturer or distributor of the structural product must provide the structural product user with copies of the general building supervisory test certificate and must make reference to the fact that the general building supervisory test certificate must be available at the place of use.
- (5) The technical data sheets supplied by the manufacturer have been reviewed for plausibility by the test office.
- (6) This general building supervisory test certificate must only be copied in its entirety. Publication of excerpts requires the approval of *Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen Leipzig (MFPA Leipzig)*.  
Texts and diagrams of advertising material must not contradict this general building supervisory test certificate. Translations of this general building supervisory test certificate must contain the reference "This translation of the original German version was not reviewed by MFPA Leipzig".
- (7) This general building supervisory test certificate is issued revocably. The provisions can be supplemented and changed retrospectively, in particular when necessitated by new technical insight.

Leipzig, 31 January 2008

  
Jun. Prof. Dr.-Ing. Frank Dehn  
Managing Director

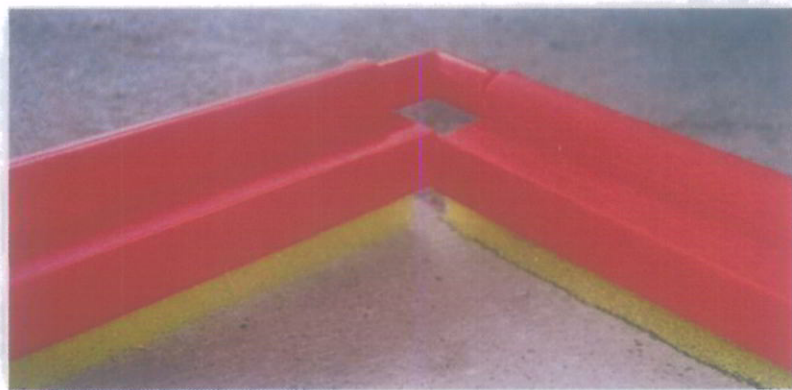


  
Dr.-Ing. Ute Hornig  
Head of the Test Office

# Installation Instructions

## DRYset Injection Profile

article number 1102.1011.020



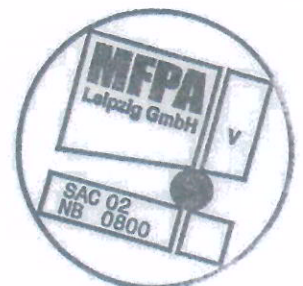
The DRYset injection profile lying on the surface adapts itself excellently to every subgrade with its inserted flexible foam layer.

### Area of Application

The injection profile is suited to sealing all working joints in construction and civil engineering.

### Subgrade

- cementeous
- at least 24 hours old (concrete quality)
- swept clean
- use special foam (40 mm high) with very rough subgrades







## General Information

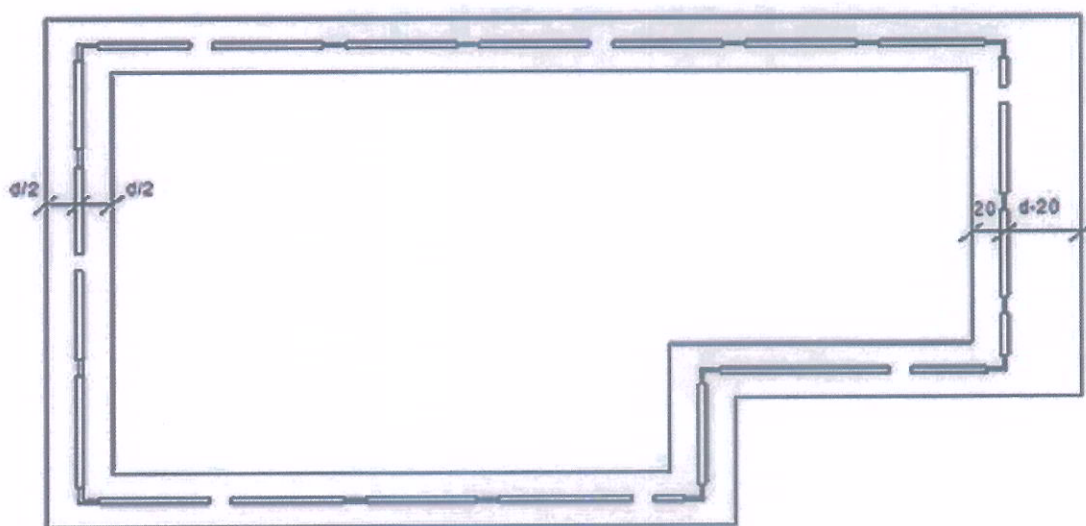
Please do not place a mortar subbase when connected to the floor/wall.

The injection profiles should always be mounted on cementous subgrades. This is the reason why mounting of injection profiles on expanded metal or supporting slabs of reinforcement elements is not admissible.

It is not necessary to remove bore dust produced by the fastening equipment.

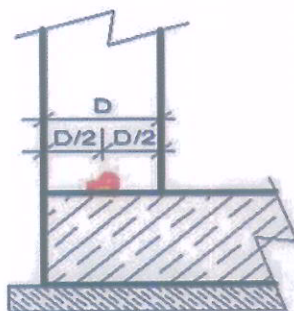
Any additional fastening holes have to be drilled on rough subgrades to ensure that the injection profile is fully surface-mounted everywhere.

## Installation Diagram

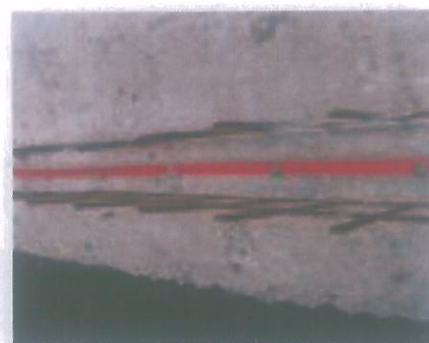
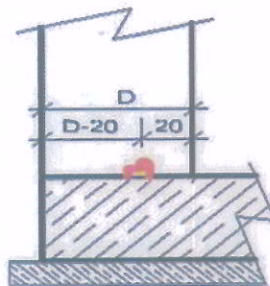


### Installation Location (floor slabs, ceilings and walls)

- install in the middle of the building component if the building component is as much as 40 cm thick



- install with 20 cm spacing from the injection side if the building component is more than 40 cm thick



## Fastening

- lay the profile out on a subgrade swept clean
- drill all preset holes with a 6 mm drill
- fasten with a percussion dowel (type 6/60)
- seal preset holes that are not needed (for instance, with adhesive tape)



## Section Length

①

- the optimum section length (continuous injectable length) is 6-8 m



## Connection within Section Length

②

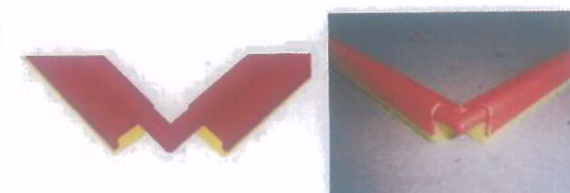
- extend and fasten injection profiles with connecting piece



## 90° Connection within Section Length

③

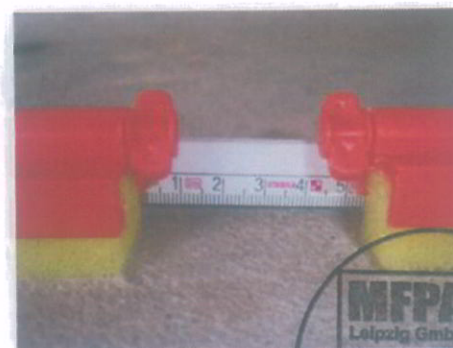
- extend and fasten injection profile at an angle of 90°



## Section End

④

- give the section ends an end piece
- there is 5 cm between the section ends
- mark the section ends







## General Instructions

The injection profile can be installed regardless of the weather.  
Connections for subsequent injection work are not generally led outwards so construction work is not disturbed in any way.

## Delivery Form

DRYset injection profile 25 x 25 mm

DRYset injection profile 25 x 40 mm

## Accessories

DRYset connecting piece

DRYset 90° elbow

DRYset end piece

Percussion dowel (type 6/60)

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