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Leipzig Institute for Materials
Research and Testing

Testing, Inspection and
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Test Report No. PB 5.1/25-112-1

dated October 17th, 2025
No. Copy 1

Subject: Determination of the watertightness of
Dryflex 2 acrylate resin
in accordance with DIN EN 1504-5

Client: Drytech International SA
Via Industrie 12
CH-6930 Bedano
Switzerland

Processing period: August 2025 – October 2025

Receipt of samples: 5562-1 to -3 / 08/04/2025

Person responsible: B. Eng. V. Fischer

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1 Scope of task

In accordance with the order from *Drytech International SA*, the task was to determine the watertightness of the acrylate-based crack filler *Dryflex 2* used for the swellable filling of cracks. The test was based on the specifications of DIN EN 1504-5 [8], [9].

2 Basis

This test report is based on the following documents, standards, and guidelines:

- [1] MFPA Leipzig GmbH, offer "testing of *Dryflex 2* for swellable filling of cracks (S) according to 1504-5:2004" dated 07/01/2025
- [2] *Drytech International SA*, Test order dated 07/02/2025
- [3] *Drytech International SA*, Technical data sheet *Dryflex 2* rev.04_2024
- [4] *Drytech International SA*, material supplied by client;
sample received: 08/04/2025 with sample receipt number: 5562-1 to 5562-3
- [5] *Drytech International SA*, Instructions for preparing *Dryflex 2* resin samples
- [6] DIN EN 14068: 2004-03; Products and systems for the protection and repair of concrete structures Test methods Determination of watertightness of injected cracks without movement in concrete; German version EN 14068:2003
- [7] DIN EN 1766: 2017-05; Products and systems for the protection and repair of concrete structures – Test methods – Reference concretes for testing; German version EN 1766:2017
- [8] DIN EN 1504-5: 2005-03; Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 5: Concrete injection; German version EN 1504-5:2004
- [9] DIN EN 1504-5: 2013-06; Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 5: Concrete injection; German version EN 1504-5:2013

3 Object of investigation

According to the client, *Dryflex 2* is a three-component acrylate-based resin used as a swellable crack filler. Table 1 contains the container sizes of the individual components supplied by the client.

Table 1 Sample receipt *Dryflex 2*

Sample receipt		Quantity	Component	Batch number
Number	Date			
5562-1	08/04/2025	14 x 250 ml	<i>Dryflex 2</i> Comp. A	none
5562-3		14 x 20 ml	<i>Dryflex 2</i> Comp. A1	none
5562-2		14 x 250 ml	<i>Dryflex 2</i> Comp. B ready to use	none

The components *Dryflex 2 Comp. A* and *Dryflex 2 Comp. A1* on the one hand, and *Dryflex 2 Comp. B* and water on the other, are mixed prior to application and then injected in equal volumes using a two-component pump. For the tests, the client provided the *Dryflex 2 Comp. B* component pre-mixed and “ready to use”. The individual components were mixed for the tests in accordance with the manufacturer’s specifications [5] as follows:

Table 2 composition of components A and B

Component	Part	Amount
A	<i>Dryflex 2 Comp. A</i>	250 ml
	<i>Dryflex 2 Comp. A1</i>	20 ml
B	<i>Dryflex 2 Comp. B Ready to use</i>	250 ml

4 Test of watertightness

To test watertightness in accordance with DIN EN 14068 [6], 3 injected concrete test specimen (mixture in accordance with EN 1766 [7], type MC 0.45; crack width (1.0 ± 0.2 mm)) are used.

The undersides of all cracks were sealed with an epoxy resin adhesive filler. Two adhesive packers were embedded in the sealant to apply the crack filler.

The injection of the crack filler, dispensed in double cartridges, is injected via the adhesive packers attached to the underside into the damp cracks, which had previously been conditioned in accordance with DIN EN 14068 [6] to the moist (DP - damp) crack moisture state. For this purpose, the sealed cracks were filled with water for 30 minutes and injected 30 minutes after emptying. The injection was terminated when the crack filler emerged at the top of the crack.

Seven days after injection, any residual injection resin adhering to the specimens as well as the sealing layers were mechanically removed. Subsequently, a pressure chamber was mounted over the crack. After clamping the pressure-generating device to the specimen and filling the chamber with water, the application of the water pressure was initiated.

According to [2], watertightness must be verified in accordance with specifications of DIN EN 1504-5 [8] at a test pressure of 2×10^5 Pa. In accordance with DIN EN 14068 [6], the test pressure is increased in four steps of 25% each until the target pressure is reached. At each pressure stage, the applied test pressure is kept constant for a period of 7 days. After the target pressure of 2×10^5 Pa has been applied for 7 days, cyclic pressure variation is carried out. A total of 500 cycles are performed, with each cycle consisting of a 15-minute exposure to 25% and 75% of the target pressure.

During the test, the underside is observed for any water leakage. If no leakage occurs, the watertightness test is subsequently repeated in the same manner for a test pressure of 7×10^5 Pa.

5 Results

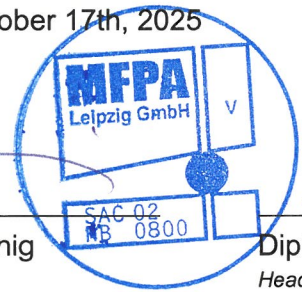
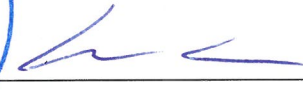
The results of the performed tests are summarized in the following table.

Table 3 Test results *Dryflex 2*

Requirement	Moisture Condition	Result
waterproof at 2×10^5 Pa	DP (damp)	waterproof at 2×10^5 Pa
waterproof at 7×10^5 Pa	DP (damp)	waterproof at 7×10^5 Pa

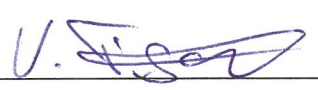
The results of the tests refer exclusively to the tested objects. This document does not replace any proof of conformity or usability within the meaning of building regulations (national/European).

Leipzig, October 17th, 2025

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Person responsible