

Test Report

Installation systems including sealsystems for shower trays/ shower areas

Water tightness around penetrations based on
ETAG 022. Proved by Kiwa GmbH

BETTE

Kiwa GmbH
TBU
Gutenbergstr. 29
D - 48268 Greven

Tel. +49 (0)2571 - 9872-0
Fax +49 (0)2571 - 9872 - 99
infokiwagreven@kiwa.de
www.kiwa.de

Test Report. 2.1/11168/0360.0.1-2017e

General

Issued: 07.07.2017

Order by: **Bette GmbH & Co. KG**
Heinrich Bette Straße 1
33129 Delbrück
GERMANY

Material: Installation systems including sealsystems for shower trays/shower areas
Sealing Set, incl. Installation System Universal Basic
BetteUpstand incl. Sealing Set for installation flush-to-floor and Installation System Universal Basic
Installation System Universal
(Declaration by Customer)

Order date 03.04.2017

Sample delivery: March 2017

Test according to ETAG 022 (Issued November 2010)

1. Water tightness around penetrations and other details in wet room floors (part 2.4.4.6, Annex A)*

The results apply exclusively to the specimens submitted.

*The mentioned test above was performed according to ETAG 022 Annex A (Issued November 2010) with a modified test procedure.

This test report contains 4 pages.
It may not be published in parts.



1. Watertightness around penetrations

According to DIN 18534-1:2017-07, areas under/behind bathtubs and shower trays have to be protected and sealed against water with sealing tapes. To verify the watertightness, a testbox (according to ETAG 022 Annex A: Guideline for European technical approval of watertight covering kits for wet room floors and or walls) was mounted with the tested sealing system from Bette GmbH & Co. KG. The aim of this test was, to evaluate the ability of the install system in combination with the sealing system, when exposed to water and mechanical stresses.

The testbox was mounted with all the sealing and install systems which are approved by the customer. Tiles, tile adhesive, joint material and silicone was not applied, in order to expose the sealing system with a direct load of water.

The test samples were made by the customer at Kiwa GmbH - TBU in Greven from 03.03.2017- 06.03.2017.

The thermal stress test with water started after a drying time of 7 days.

The test sequence started first with a spraying test with 90°C/10°C tempered water over 100 cycles, following 1500 cycles with 60°C/10°C tempered water.

The dynamic load test was performed conscious after the hot and cold spraying in order to simulate a more practical case regarding ageing and loading.

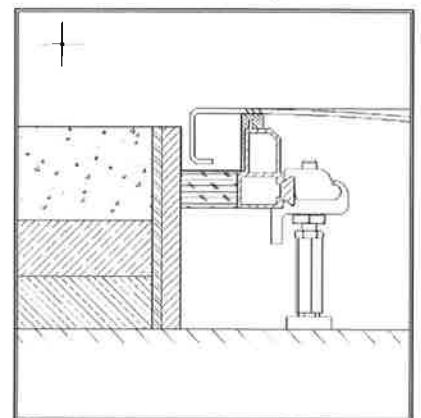
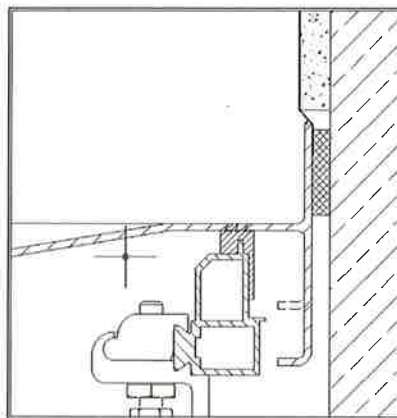
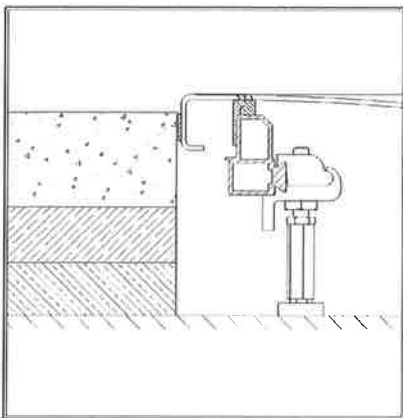
After the spraying and loading was done, the testbox was filled with 10 cm water column for 7 days.

2. System setup

Product 1:
Sealing Set, incl. Installation System Universal Basic

Product 2: BetteUpstand incl. Sealing Set for installation flush-to-floor and Installation System Universal Basic

Product 3:
Installation System Universal



*sketches were provided by the customer

Components	Product		
	1	2	3
supportframe for Installation System Universal Basic	+	+	
supportframe for Installation System Universal			+
Bette shower tray Floor	+		+
Bette shower tray with a frame on 2 sides		+	
cementitious sealing membrane, Aquafin RS 300	+	+	+
MS-Polymer sealing compound, Bette Spezialklebstoff			+
Installation System Universal sealing tape, adhesive			+
Installation System Universal standard 90° inside corner for walls and floors, adhesive			+
Installation System Universal standard 90° inside corner for wall-wall, adhesive			+
Y-frame-sealing tape, adhesive		+	
sealing set sealing tape	+	+	
sealing set 90° inside corner for walls and floors	+	+	
wooden bar for creating a channel structure			+
formwork panel			+



3. Processing sequence

Preparatory work for the products 1, 2 und 3:

- Applying of the first layer Aquafin RS 300 in the test box
- Putting in the supportframe for the Installation System Universal and System Universal Basic in the respective gaps in the base plate
- Applying the 2. layer of Aquafin RS 300

Sealing Set, incl. Installation System Universal Basic:

1. Glueing the Sealing Set 90° inside corner and the sealing tapes on the cleaned edge area
2. Roll and press on the butyltape all around
3. Applying the shower tray incl. glued sealing membrane on the support frame of the installation system Universal Basic
4. Glueing the sealing tapes with the underground and the 2 walls all around with Aquafin RS 300

BetteUpstand incl. Sealing Set for installation flush-to-floor and Installation System Universal Basic:

1. Glueing the Y-frame-sealing tape on the cleaned BetteUpstand
2. Glueing the sealing set 90° inside corner and sealing tapes on the cleaned edge area
3. Roll and press on the butyltape all around
4. Applying the shower tray incl. glued sealing membrane on the support frame of the installation system Universal Basic
5. Glueing the sealing tapes with the underground and the 2 walls all around with Aquafin RS 300

Installation System Universal:

1. Glueing the Installation System Universal standard 90° inside corner for walls and floors and the Installation System Universal standard 90° inside corner for wall-wall on the supportframe for the Installation System Universal
2. Glueing the Installation System Universal sealing tape
3. Roll and press on the butyltape all around
4. Creating a channel structure and glueing the butyltape between the sealing corners and the sealing tapes
5. Glueing the sealing tapes with the underground and the 2 walls all around with Aquafin RS 300
6. Glueing the channel rails mit with MS-Polymer sealing compound
7. Laying down the shower tray BetteFloor on the supportframe for the Installation System Universal incl. channel rail and sealing membrane

Parallel worksteps for the products 1, 2 and 3 after the installation:


- Applying a 3. layer of the liquid sealing membrane on the sealing tapes and the rest of the test box




4. Test sequence and results

Action	Date	Watertight?
Start 100 cycles alternatingly flush with 90 °C and 10 °C tempered water (6,6 h.)	14.03.2017	yes
Visual check, start 1500 cycles of exposure to spray water of alternatingly 60 °C and 10 °C (5 days)	15.03.2017	yes
2nd day visual check	16.03.2017	yes
3rd day visual check	17.03.2017	yes
4th day visual check	18.03.2017	yes
5th day visual check	19.03.2017	yes
Dynamic load test	23.03.2017	
visual check, Fill the box with cold water (100 mm)	23.03.2017	yes
2nd day visual check	24.03.2016	yes
3rd day visual check	25.03.2016	yes
4th day visual check	26.03.2016	yes
5th day visual check	27.03.2016	yes
6th day visual check	28.03.2016	yes
7th day visual check, end of the test / end of exposure to stress	29.03.2016	yes

Kiwa GmbH – TBU tested the watertightness on the mentioned sealing systems of Bette GmbH & Co. KG according to ETAG 022 Annex A and specified them as watertight.


 i.V. Matthias Käsekamp, B. Eng.
 (Deputy head of test laboratory)


 i. A. Alexander Kriz, B.Sc.
 (Staff of test laboratory)

Bette GmbH & Co. KG
Heinrich-Bette-Straße 1
33129 Delbrück
Germany
T +49 5250 511-0
F +49 5250 511-130
info@bette.de

www.bette.de