

TEST SUMMARY REPORT

for carrying out tests for water tightness of drilled through ceramic tiles
for sealing when using fischer "DuoSeal" plastic plugs

- Object: **DuoSeal** (fischer plastic plug)
- Customer: fischerwerke GmbH & Co.KG
Klaus-Fischer-Str. 1
72178 Waldachtal
- Test order no.: 91022001.001e
(detailed Test Report no. 9102/20e dated 25.11.2020)
- Test specifications: a) ETAG 022 - Part 1/part 2
- Annex F: Water tightness around penetrations and other details in wet room walls with flexible substrate
b) Testing guidelines for the issue of general building authority test certificates for waterproofing in conjunction with tile and slab coverings - Part 1/Part 2 (PG-AIV)
- Determining the water tightness in the installed condition

Test preparation: In accordance with the aforementioned test procedures for testing waterproofing, test plates (for a)) and test basins (for b)) covered with liquid or sheet-like composite waterproofing and grouted tile installation (earthenware) were prepared. The test plates and test basins were drilled through (\varnothing 6 and 8 mm) after curing (\geq 28 days). The "**DuoSeal**" plugs were then inserted into the drilled holes, before the attachments were mounted with the provided screws.

- Test procedure: a) Exposure to hot/cold water sprayed with
- Hot water at $(60 \pm 3)^\circ$ C for 60 seconds
 - Pause for 60 seconds
 - Cold water at $(10 \pm 3)^\circ$ C for 60 seconds
 - Pause for 60 seconds
- The cycle was repeated 1,500 times (100 hours).

Every day during testing, the moisture level of the gypsum plasterboards was measured in the morning, in the evening and after completion of the cycles to detect any differences in moisture content and the test samples were visually examined for signs of water leakage or moisture penetration.

The test result refers to the tested material. Publications and reproductions of the test report are only permitted in unabridged form.



– Institut für Wand- und Bodenbeläge –
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- b) The basins were filled with water (H = 20 cm) over 28 days, daily visual checks were conducted for moisture penetration into the wooden construction or signs of water leakage.

Test results:

- a) Water leakage or moisture penetration into the test plates was not detected either visually or by electronic measurements.
- b) Water leakage from the basin or moisture penetration into the basin construction was not detected over the entire load/exposure period.

Analysis/
Assessment:

The test tiles and basins with drilled seals for the purpose of simulating fastening situations using "DuoSeal" plastic plugs have been proven to be watertight and thus resistant to the applied water loads both when exposed to spray (1,500 cycles hot/cold) and when exposed to standing water (H = 20 cm) for 28 days.

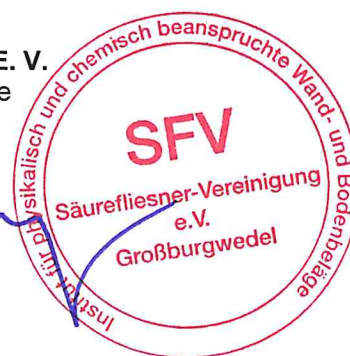
The tests carried out usually serve as essential test components for assessing the watertightness of water proofing systems and are performed as part of the proof of usability for obtaining a European Technical Assessment (ETA) as per ETAG 022 or a general building authority test certificate (abP) based on the test principles and standards for waterproofing in conjunction with tiles and slabs (PG-AIV). Waterproofing systems that have been tested accordingly and subsequently found to be watertight can be used in all areas of application - taking into account any material product group-related restrictions that may exist - which are specified in DIN 18534-1 "Waterproofing of interiors - Part 1: Requirements, planning and implementation standards" (status July 2017) by the water exposure classes W0-I to W3-I.

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Institut für Wand- und Bodenbeläge

- Managing Director -

Dipl.-Ing. Friedrich Höltekemeyer



Großburgwedel, 25.11.2020

Hö/ed

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