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Gesellschaft für Materialforschung
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Testing, verification
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Test report no. PB 5.1/22-231-1

dated 05 May 2022
1st copy

Subject: *Secco Due* -
Testing the suitability of a waterproofing system
for interior waterproofing in according to
WTA Technical Data Sheet 4-6 (draft 2018)

Client: redstone GmbH & Co. KG
Haferwende 1
28357 Bremen

Testing period: December 2021 – February 2022

Receipt of sample: 4113 / 21.12.2021

Person responsible: Dipl.-Ing. (FH) Kautetzky

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1 Scope of task

The one-component *Secco Due* offered by *redstone GmbH & Co. KG* for use as interior waterproofing is to be investigated with regard to its watertightness according to WTA Technical Data Sheet 4-6 [5].

2 Basis

The tests are based on the following test specifications and test materials:

- [1] MFPA Leipzig GmbH; offer for testing according WTA Technical Data Sheet 4-6, dated 11/05/2021
- [2] Manufacturer's order for testing imperviousness to moisture penetration from the rear, dated 12/07/2021
- [3] Materials supplied by the manufacturer, *Secco Due*
- [4] *redstone GmbH & Co. KG*, technical data sheet *Secco Due*, dated 03/31/2022
- [5] WTA Technical Data Sheet 4-6: draft 2018; Post-installation sealing of building components in contact with soil
- [6] DIN EN 12390-8: July 2009; Testing of hardened concrete – Part 8: Depth of penetration of water under pressure

3 Object of the test

3.1 Information on the building product

According to the manufacturer [4], *Secco Due* is a single-component, mineral hybrid mortar for waterproof slurring and levelling indoors and outdoors.

For the tests, *Secco Due* is mixed with water in a ratio of powder : water = 25 kg : 5 kg.

Table 1 contains the batch numbers of the materials delivered by the manufacturer for testing.

Table 1 Batch numbers of the delivered products [3]

Receipt of sample	Designation	Container size	Batch no.
4113 / 21.12.2021	<i>Secco Due</i>	25 kg	2 315148

3.2 Sample production

For the test, the waterproofing system is applied to six test specimens, measuring 20 x 20 [cm] and 5 cm thick, which consist of water-permeable concrete kerb units EF 50 x 300, according to DIN 483, water absorption class 1, according to DIN EN 1340. Before application, the concrete kerb units were stored in water until saturation. To verify the water permeability of the test specimens, water pressure is applied to all three test specimens before application until water escapes.

The waterproofing system was applied to the water-saturated concrete kerb units with a matt damp surface by an employee of the manufacturer in the presence of a representative of the testing laboratory. At the beginning, *Secco Due* was brushed into the surface to close the pores present on the surface. Immediately afterwards, the application was carried out with a wet layer thickness of approx. 4 mm using spacers.

Until testing, the test specimens were stored at (23 ± 2) °C and (50 ± 10) % RH.

4 Watertightness test *

Before the test, the side surfaces of the test specimens were sealed with epoxy resin. Furthermore, epoxy resin was also applied to the underside of the test specimens leaving a free area with a diameter of 75 mm in the centre for the pressure chamber to be applied there.

28 days after the test specimens are made, they are placed in the test rig with the side coated with the sealing system facing downwards. The pressure chamber with an internal diameter of 75 mm is placed on the upward-facing base surface in accordance with the specifications of DIN EN 12390-8 [6]. After filling the test chamber with water, 3 test specimens are exposed to a test pressure of 0.05 bar (50 cm water column) for 14 days and 3 other test specimens are exposed to a test pressure of 0.75 bar (7.5 m water column) for 28 days.

The visual appearance of the waterproofing is evaluated during and after water exposure. The specimens are considered to have passed the test if no water penetration and no blistering or cracking occurs during the water exposure.

5 Test results

The results of the test performed are summarised in the following table.


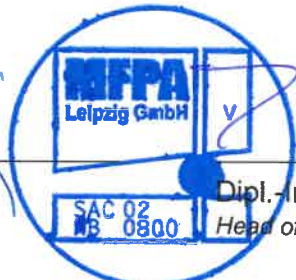
Table 2 Water-tightness test results.

Test specimen no.	Test pressure	Test duration	Water passage	Blistering or cracking
1	0.05 bar	14 days	no	none
2	0.05 bar	14 days	no	none
3	0.05 bar	14 days	no	None
4	0.75 bar	28 days	no	none
5	0.75 bar	28 days	no	none
6	0.75 bar	28 days	no	None

No blisters or cracks were visible on the test specimens.

Finally, the test specimens were slit to determine the layer thicknesses. The dry layer thickness of the applied waterproofing system was between 2.8 mm and 4.6 mm, on average approx. 3.5 mm.

Leipzig, 05 May 2022



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