

## Bond strength measurements of epoxy flooring

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<b>Assignment</b>	<b>Assignment to determine of bond strength of epoxy flooring according to SFS-EN 13892-8.</b>
<b>Sample details</b>	Customer provided Eurofins Expert Services Oy with the System Atramex Ambienta Magic -coating products for epoxy flooring on 16.3.2020.
<b>Sample preparation</b>	The coating work was done in Eurofins premises in Finland according to the customer's instructions on 28.-29.4.2020. Products in use were Atramex Ambienta Magic Base Primer (7721), Ambienta Magic Part 1 (1111), Part 2 (1112) and Cork granules, Ambienta Magic Finish matt Part 1 (7719) and Finish matt Part 2 (7729). The coating was made on a sandblasted concrete slab (maximum aggregate size 10 mm, water/cement ratio 0,45) cast on 25.2.2020. The coating is shown in Figures 1-5.

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Figure 1. The concrete slab after priming.



Figure 2. The concrete slab after vacuuming the sand.

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Figure 3. The concrete slab after coating of Ambienta Magic Part 1, 2 and Cork granules.



Figure 4. The concrete slab before coating of Ambienta Magic Finish Part 1 and Part 2.

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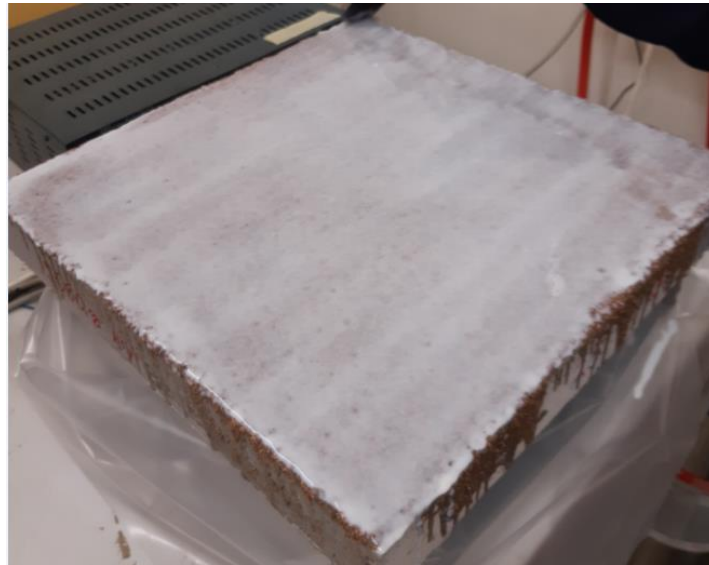


Figure 5. The concrete slab after Ambienta Magic Finish.

The sample was let to cure in room temperature 21,5°C for seven days before testing.

**Method**

**Determination of bond strength, SFS EN 13892-8**

Steel Pull-head plates (square, side 50 mm) were glued to the coating on 7.5.2020. The test was performed on 8.5.2020 (Figure 6 and Figure 7) with Baustoff-Prüfsysteme F15D Easy M2000.



Figure 6. The concrete slab before measuring the bond strength.

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Figure 7. The test specimens after test.

## Results

The tensile load was  $0,05 \pm 0,01$  N/(mm<sup>2</sup>s). The type of failure for each test piece (1 - 5) was between X (cohesive failure in the concrete substrate) and X/Y (failure between the substrate and the screed). The test results are shown in Table 1.

Table 1. Test results of the bond strength.

Pc No	B [kPa]	Aver [kPa]	Failure type
1	1,242	1,6	X ; X/Y
2	1,694		X ; X/Y
3	1,608		X ; X/Y
4	1,62		X ; X/Y
5	1,83		X ; X/Y

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**Espoo, 14.5.2020**

*Terhi Nyman*

*Expert*

Appendices	No appendices
Distribution	Customer, electronically approved

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