

Shore D hardness measurements of epoxy flooring

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Assignment	Assignment to determine Shore D hardness of epoxy flooring according to ISO 48-4:2018.
Sample details	Customer provided Eurofins Expert Services Oy with the equipment for epoxy flooring. Samples were prepared in Eurofins premises in Finland.
Sample preparation	<p>Hardness measurement sample was prepared of products that the customer delivered to Eurofins. Products in use were Ambienta Magic Part 1 (1111) and Part 2 (1112), Cork granules and Ambienta Magic Finish matt Part 1 (7719) ja Finish matt Part 2 (7729).</p> <p>The sample was let to cure in room temperature for nine days before testing. Sample piece was 20 mm thick. Curing time and sample thickness fulfill the requirements of the standard ISO 48-4:2018.</p> <p>Figure 1 presents an image of the sample piece. The hardness measurements were performed in 8.5.2020.</p>

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Figure 1. An image of the sample piece used for the hardness tests.

Results

Shore D measurements were performed according to ISO 48-4:2018 from the test piece presented in figure 1. The device used for the hardness measurements was Sauter HDD 100-1 Shore D hardness tester. The device was hand-held. Tests were carried out in room temperature. The test surface was ground lightly with grid 600 (30 µm abrasive) to get more flat surface for the measurements. Flat surface ensures that tests measure material properties and not surface roughness. Table 1 presents both the statistical values and the individual hardness measurement results. Eight individual measurements were performed, and values were recorded both 3 seconds and 15 seconds after placing the indenter into the surface.

Table 1. Shore D hardness results. Individual measurements are presented first. Below them average, minimum and maximum of the results are presented. Hardness was measured after 3 seconds and 15 seconds, both results are presented in the table.

	3 s	15 s
	35,3	32,3
	37,7	34,7
	36,0	32,4
	33,2	30,4
	34,7	31,0
	34,2	31,8
	37,8	34,4
Result	34,2	31,4
Average	35,4	32,3
Min	33,2	30,4
Max	37,8	34,7

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Summary Hardness of the sample after 3 seconds measuring was 35 (Shore D) and after 15 seconds 32 (Shore D).

Espoo, 18.5.2020

Verner Nurmi

Expert, Failure Analysis

Appendices No appendices
Distribution Customer, electronically approved

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