

Testing the surface and edge of a furniture door in accordance with SFS 4969 requirements

Determination of resistance to humidity of a furniture door in accordance with VTT method M/250/08

1 Customer: Kensapuu Oy

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**Customer**                      Kensapuu Oy  
   Timo Mäkelä  
   Targantie 9  
   68100 HIMANKA

**Order**                              Email 12 January 2012, T. Mäkelä

**Contact person**                **VTT Expert Services Oy**  
   Technical expert Ilpo Saarinen  
   Kemistintie 3, Espoo  
   PL 1001, 02044 VTT  
   Tel. 020 722 5568  
   Fax 020 722 7003  
   Email ilpo.saarinen@vtt.fi

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**Assignment**                      **Testing the surface and edge of a furniture door in accordance with SFS 4969 requirements.**

**Determination of resistance to humidity of a furniture door in accordance with VTT method M/250/08.**

**Samples**                              Doors supplied by the customer on 9 January 2012

**Date and place of testing**

The furniture doors were tested on 10-20 January 2012 at the premises of VTT Expert Services Oy.

**Structures tested**

Material information notified by the customer.

Product name: Aaria  
Door size: 16 mm x 396 mm x 704 mm  
Panel: MDF panel, Kronoply (density 800 kg/m<sup>3</sup>)  
Coating: Painted door, shade 201, white  
Surface treatment: Substrate treated edges before actual surface treatment 2 x hand spraying with Tikkurila acid catalysed primer 6940201.  
Edge grinding, priming on the line with Tikkurila acid catalysed primer 6940201, 2 x front surface 1 x back surface. thickness, application 120 g/m<sup>3</sup> per application.  
top coat on the line with Tikkurila acid catalysed paint Dicco Astral 201, 1 x front surface and 1 x back surface.

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The test results are valid only for the samples tested.

**Testing**

The surface tests were conducted in accordance with the SFS 4969 testing methods and requirements mentioned in Table 1.

Resistance to humidity was tested in accordance with method M/250/08 and the results were examined in accordance with the requirements of the method.

**Test results**

Table 1 shows the surface testing results.

Table 2 shows the resistance to humidity results.

Table 1. Door panel surface test results. VTT-ES No. 506-1 and 3.

Property	Test method	Requirement	Result
Resistance to water	SFS 3756	6 h	5
Resistance to grease	SFS 3756	6 h	5
Resistance to coffee	SFS 3756	1 h	5
Resistance to alcohol	SFS 3756	1 h	5
Resistance to detergent	SFS 3756	1 h	5
Resistance to blackcurrant juice	SFS 3756	1 h	5
Resistance of edge to humidity	SS 839120	1 h	5
Resistance to scratches	SIS 839117	3N	No trace
Resistance of surface to impact	SS 839123	50 mm	ø 3.0 mm (4)
Resistance of edge to impact	SS 839123	25 mm	ø 3.0 mm (3)

Table 2. Biggest swelling changes in the doors after different rounds of sprinkling.

Door	1 <sup>st</sup> sprinkling Change (mm)	2 <sup>nd</sup> sprinkling Change (mm)	3 <sup>rd</sup> sprinkling Change (mm)	4 <sup>th</sup> sprinkling Change (mm)	5 <sup>th</sup> sprinkling Change (mm)
1(D)	0.00	0.01	0.01	0.01	0.01
2(C)	0.00	0.04	0.04	0.05	0.06
3(D)	0.00	0.01	0.01	0.01	0.02

The test results are valid only for the samples tested.

**Examination of results** Under SFS 4969, the acceptable result for liquids is 4 and 5.

Under SFS 4969, the acceptable width for resistance to scratching is 0.5 mm.

Under SFS 4969 the acceptable result in resistance to the impact test is  $\varnothing \leq 4$  mm for the surface and  $\varnothing \leq 5$  mm for the edge.

The figure in parentheses is the assessment of impact traces in accordance with the instructions under standard SS839123.

The doors comply with the requirements of SFS 4969 with regard to the properties tested.

Under method M/250/08, damage is considered as being a swelling of more than 0.25 mm or a visible structural change.

Measurement: Six measuring points were marked on the test samples so that four measuring points (A-D) are 2 mm from the bottom edge of a consistently thick area and two (A and D) of these four measuring points are in the corners of the sample and the two others at regular intervals along the bottom edge or at the most critical points on the edge. Two other points (E and F) are above the bottom edge of the sample, one on each side edge. The thickness of the samples was measured at these points before the test and after each sprinkling/drying period.

In Table 2, the measuring point A-F is indicated in parentheses after the door number.

The result is the number of sprinklings the side withstood without damage. Under the method, the maximum number of sprinklings is five, which is the requirement for wet room furniture.

The doors withstood sprinkling five times without damage. The results are valid only for the samples tested.

Espoo, 25 January 2012

Max Johansson  
Team manager



Ilpo Saarinen  
Technical expert

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