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Hemel  
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Dresden, 26 January 2018  
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## Test Report Order No. 2718015

**Client:** Hemel  
İstanbul Deri Organize Sanayi Bölgesi; Vakum Cad. No:25;B-1 Özel  
Parsel, Aydınli-Orhanlı Mevkii, Tuzla  
34957 Istanbul  
Turkey

**Date of order:** 04 January 2018

**Order:** Performance of different tests on furniture surfaces

**Contractor:** EPH - Laboratory Surface Testing

**Engineer in charge:** Dipl.-Ing. S. Wenk



Dr.-Ing. Rico Emmler  
Head of Laboratory Surface Testing

The Test Report contains 3 pages. Any duplication, even in part, requires written permission of EPH.  
These test results are exclusively related to the tested material.

## 1 Task

The authorized laboratory Entwicklungs- und Prüflabor für Holztechnologie GmbH (EPH) was instructed by Hemel to carry out different tests on furniture surfaces.

## 2 Test material

For the test, the client sent the following test material (receipt at EPH-laboratory on 10 January 2018):

Oak Wood with Wood oil 2C "natural"

## 3 Determination of the resistance to chemical agents according to CEN/TS 16209:2011

We have determined the resistance to chemical agents according to CEN/TS 16209:2011 for the class A and class B with red wine. The test was carried out according to EN 12720:2014.

The test was carried out: 17 January – 19 January 2018

## 4 Results

### Level of use class A according to CEN/TS 16209:2011

Test agent		Results for level of use class A		
		Duration of exposure	Requirement (Grade)	Tested variant
1	Acetic acid 10 %	16 h	4	5
2	Acetone	10 min	4	5
3	Ammonia 10 %	16 h	4	1
4	Citric acid 10 %	16 h	4	5
5	Cleansing agent	16 h	4	5
6	Coffee	16 h	4	5
7	Ethanol 48 %	6 h	4	5
8	Paraffin oil	24 h	4	5
9	Water	24 h	4	5
10	Sudor, basic medium	1 h	4	5
Add.	Red wine	16 h	5	5

**Level of use class B according to CEN/TS 16209:2011**

Test agent	Results for level of use class B		
	Duration of exposure	Requirement (Grade)	Tested variant
1 Acetic acid 10 %	1 h	4	5
2 Acetone	10 s	4	5
3 Ammonia 10 %	1 h	4	2
4 Citric acid 10 %	1 h	4	5
5 Cleansing agent	6 h	4	5
6 Coffee	6 h	4	5
7 Ethanol 48 %	1 h	4	5
8 Paraffin oil	16 h	4	5
9 Water	16 h	4	5
10 Sudor, basic medium	1 h	4	5
Add. Red wine	6 h	5	5

Grading code according to EN 12720:2014Grade 5 *No change*

A difference between the test area and the adjoining area cannot be detected.

Grade 4 *Slight change*

The test area can only be differentiated from the adjoining area if the light source is reflected from the test area back to the inspector's eye, e.g. discolouration, changes in gloss or colour.

No changes in the structure of the surface, e.g. swelling, fibres rising, cracking, blistering

Grade 3 *Moderate change*

The test area can be differentiated from the adjoining area, visible from various perspectives, e.g. discolouration, changes in gloss or colour.

No changes in the structure of the surface, e.g. swelling, fibres rising, cracking, blistering

Grade 2 *Considerable change*

The test area can be clearly differentiated from the adjoining area, visible from all perspectives, e.g. discolouration, changes in gloss or colour, and/or the surface structure has slightly modified, e.g. by swelling, fibres rising, cracking, blistering

Grade 1 *Strong change*

The surface structure has clearly changed and/or discolouring, changes in gloss or colour and/or the surface material has loosened partially or completely and/or the filter paper keeps sticking to the surface.


Dipl.-Ing. S. Wenk  
Engineer in charge