



Entwicklungs- und Prueflabor Holztechnologie GmbH · Zellescher Weg 24 · 01217 Dresden · Germany

Classen Industries GmbH  
Frau Yvonne Schumann  
An der Birkenpfehlheide 6  
15837 Baruth



Dresden, 07/03/2024  
USOK

## Test Report Order No. 2724113

**Client:** Classen Industries GmbH  
An der Birkenpfehlheide 6  
15837 Baruth / Germany

**Order:** Determination of the water resistance according to ISO 4760:2022-05

**Contractor:** EPH - Laboratory Unit Surface Testing

**Engineer in charge:** Dipl.-Ing. (FH) M. Peter

*P.P. R. Möschner*

Dipl.-Ing. Andreas Möschner  
Head of Laboratory Unit Surface Testing

The test report contains 6 pages. Any duplication of extracts requires the written permission of EPH. The test results refer exclusively to the material tested.

## 1 Task

The accredited Entwicklungs- und Prueflabor Holztechnologie GmbH (EPH) was instructed by Classen Industries GmbH in Baruth / Germany to determine the water resistance according to ISO 4760:2022-05 on a laminate floor covering.

NOTE: All numerical values within this document are given with a comma as decimal.

## 2 Sample material

The following samples and information were selected for testing and submitted to the contractor by the client:

Laminate floor covering

Sample No.:	No. 686
Profil type:	ML 2.X
Thickness:	8 mm
Production order:	5662481
Article:	54006120

Date of sample receipt: 14/02/2024

## 3 Determination of Laminate Flooring Topical Moisture Resistance according to ISO 4760:2022-05 - Assembled Joint

The determination of the water resistance (cf. figures next page) was carried out according to ISO 4760:2022-05:

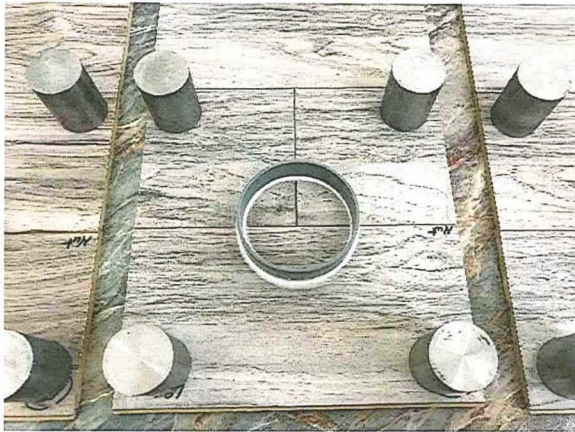
“Laminate Flooring Topical Moisture Resistance - Assembled Joint; Purpose: To evaluate moisture resistance to surface water exposure of a joined, floating, Laminate flooring assembly / element.”

The water leakage (tightness) was determined according to ISO 4760:2022-05, Annex D.

**In deviation to the standard the water load was 72 hours instead of 24 hours.**

Performance of the test: 04/03/2024 - 07/03/2024

Example figures of a test execution:



Requirements according to EN 13329:2023-12, Table 3 - Additional technical characteristics:

Characteristic	Requirement
Water resistance	Recovery swell final average $\leq 0,3$ mm Qualitative recovery swell rating final average $< 3$
Resistance of mechanical joints to water leakage	No water leak through the joints after 24 h water exposure

#### 4 Results - Water resistance according to ISO 4760:2022-05

##### Specimen 1

Quantitative Results - measured values in mm					
Position	Initial Height	Time water added <u>72 hours</u>			
		Wet Height	Wet Swell	Recovered Height	Recovered Swell
1	0,08	0,47	0,39	0,21	0,13
2	0,02	0,26	0,24	0,13	0,11
3	0,04	0,28	0,24	0,12	0,08
4	0,03	0,16	0,13	0,02	0,01
Average (Pos. 2-4)			0,20		0,07

##### Qualitative Results in Grade

Wet Swell	2	Recovery Swell	1
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##### Specimen 2

Quantitative Results - measured values in mm					
Position	Initial Height	Time water added <u>72 hours</u>			
		Wet Height	Wet Swell	Recovery Height	Recovery Swell
1	0,90	1,39	0,49	1,13	0,23
2	0,66	0,94	0,28	0,79	0,13
3	0,04	0,24	0,20	0,13	0,09
4	0,69	1,00	0,31	0,81	0,12
Average (Pos. 2-4)			0,26		0,11

##### Qualitative Results in Grade

Wet Swell	3	Recovery Swell	2
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**Specimen 3**

Quantitative Results - measured values in mm					
Position	Initial Height	Time water added <u>72 hours</u>			
		Wet Height	Wet Swell	Recovery Height	Recovery Swell
1	0,15	0,54	0,39	0,35	0,20
2	0,07	0,31	0,24	0,16	0,09
3	0,06	0,13	0,07	0,09	0,03
4	0,10	0,25	0,15	0,14	0,04
<b>Average (Pos. 2-4)</b>			<b>0,15</b>		<b>0,05</b>

**Qualitative Results in Grade**

<b>Wet Swell</b>	<b>2</b>	<b>Recovery Swell</b>	<b>1</b>
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**Grade Description**

- Grade 1 No change - Little to no noticeable change in edge swell or panel surface lift
- Grade 2 Slight swelling - Slight swelling small ridge along one or more joints, very little if any panel surface lift
- Grade 3 Moderate - Noticeable edge swelling and some panel surface lift extending away from joint
- Grade 4 Objectionable - Severely raised edge and swelling extending noticeably under the panel surface
- Grade 5 Failed test - Water leaked out of the ring, leaving no continuous film of water inside the ring (this grade is given even if there is no swell of the edge joint)

**Overall evaluation Specimen 1 - 3**

Evaluation		Wet Swell	Recovered Swell
FinalAvg Thickness Swell in mm	Pos. 1	0,42	0,19
	Pos. 2-4	0,20	<b>0,08</b>
Qualitative Rating <sub>Avg</sub>		2	<b>1</b>

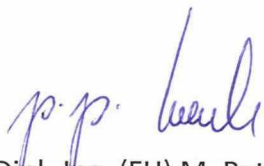
**Water leakage through the joints was not detected.**

## 5 Evaluation

Requirements for water exposure over 24 h are contained in EN 13329:2023-12 Tab. 3 (additional technical characteristics). For orientation purposes, the values for water exposure over 72 h are compared with these additional (optional) requirement values:

Property	Result	Orientation comparison* of the determined values after 72 h water exposure with the additional requirements according to EN 13329:2023 Table 3 for 24 h water exposure
Water resistance according to ISO 4760:2022-05	Qualitative recovery swell rating, final average: <b>1</b> Final average recovery swell of position 2-4: <b>0,08 mm</b>	Additional requirements according to table 3 are <b>fulfilled</b>
Resistance of mechanical joints to water leakage according to ISO 4760:2022-05, Annex D	No water leak through the joints after <b>72 h</b> water exposure	Additional requirement according to table 3 is <b>fulfilled</b>

\* Statements on conformity assessment/classification were made on the basis of the measurement results obtained. Measurement uncertainties were not included in the assessment (ILAC G8 03/2009 "Guidelines on the Reporting of Compliance with Specification" Section 2.7).



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Engineer in charge