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CERTIFIED TRANSLATION FROM THE POLISH LANGUAGE

[translation from electronic transmission]

(Logo of the Institute)

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**LABORATORY FOR WOOD EXAMINATION/TESTING AND APPLICATIONS
(USES)**

Poznań, 6th November, 2009

REPORT ON TESTING/ EXAMINATION

No U 239/BDZ/2009

The subject matter of the order: Slip resistance testing/ examination of three-layer
flooring panels

Order Number: U-239 BDZ 09

Customer's name and address:

**BALTIC WOOD S.A.
ul. Fabryczna 6a
38 – 200 Jasło**

Date of performing the testing: 12th October, 2009 – 26th October, 2009

Persons performing the testing:

Name and surname	Signature
Grzegorz Szumiński, MSc, Engineer	illegible signature
Lechosław Jabłoński, Engineer	illegible signature

Laboratory Stamp:

[Oblong stamp]: INSTYTUT TECHNOLOGII DREWNA [WOOD TECHNOLOGY
INSTITUTE], LABORATORY FOR WOOD EXAMINATION/TESTING AND
APPLICATIONS (USES), 60-654 Poznań, ul. Winiarska 1, Phone No 8492-481

**Head of Section or Head of Laboratory
for W E/T A(U)**

Stamp and illegible signature: "Head of Laboratory for Wood Examination/Testing and Applications (Uses),
Andrzej Noskowiak, MSc., Engineer"



1. IDENTIFICATION (DESCRIPTION OF THE OBJECTS TO BE TESTED)

The objects of testing were industrially manufactured three-layer flooring components (three-layer flooring made of natural wood) their top (face, surface) layer made of oak hardwood. As pre-arranged, the ordering party (customer) supplied 10 samples (test-pieces) measuring 150x150 mm each with four finishing options:

option I – “eggshell gloss (semi-matt) lacquer” made by Kneho Lacke,

option II – “flat (matt) lacquer” made by Kneho Lacke

option III – “natural oil” made by OSMO GmbH,

option IV – “transparent oil” made by OSMO GmbH.

2. DATE OF RECEPTION OF THE OBJECT TO BE TESTED

The samples to be tested were delivered on 12th October, 2009.

No damage/ defects/flaws of the samples were found.

3. SCOPE AND EXAMINATION/ TESTING METHODS EMPLOYED

The slip resistance of the surface of the test-pieces was tested/examined using the method described in the standard: *CEN/TS 15676 “Wood flooring. Slip resistance. Pendulum test”*.

Before testing the samples were conditioned in the following conditions: relative air humidity: (50±5%), temperature: (23±2)°C.

4. LIST OF MEASURING INSTRUMENTS

To determine the findings, the pendulum skid tester *SK 1579* made by *WESSEX TEST EQUIPMENT Ltd*, with rubber sliders of the hardness of 55 IRHD and elasticity of 70% (at 20°C), Identification Number B 15 112.

5. EXAMINATION/TESTING RESULTS

Three (3) measurements were conducted on each of the test-pieces in two directions (along the grains and across the grains).

The detailed examination/testing results are presented in Tables 1 through 4.



Table 1

Slip resistance examination results for three-layer flooring components of BALTIC WOOD with their top layer made of oak hardwood, finished with eggshell gloss (semi-matt) acrylic lacquer produced by Kneho Lacke

Sample number	Measurement number	Direction of measurement	
		along the grains	across the grains
1	1	64	65
	2	65	65
	3	65	66
2	1	66	62
	2	68	62
	3	68	64
3	1	60	56
	2	58	56
	3	58	56
4	1	56	56
	2	56	54
	3	57	54
5	1	65	54
	2	65	54
	3	66	55
6	1	62	56
	2	62	58
	3	64	58
7	1	54	58
	2	55	56
	3	58	56
8	1	56	54
	2	55	56
	3	56	54
9	1	56	56
	2	52	58
	3	53	56
10	1	58	56
	2	56	56
	3	58	53
average		60	57
slip resistance indicator USRV (Unpolished Slip Resistance Value)			58
standard deviation			4.4



Table 2

Slip resistance examination results for three-layer flooring components of BALTIC WOOD with their top layer made of oak hardwood, finished with flat (matt) acrylic lacquer produced by Kneho Lacke

Sample number	Measurement number	Direction of measurement	
		along the grains	across the grains
1	1	52	56
	2	56	54
	3	54	56
2	1	54	52
	2	52	52
	3	55	48
3	1	50	48
	2	51	48
	3	50	50
4	1	46	48
	2	46	44
	3	47	44
5	1	44	46
	2	44	44
	3	44	45
6	1	44	40
	2	44	38
	3	45	40
7	1	46	44
	2	46	43
	3	47	44
8	1	46	45
	2	44	43
	3	44	42
9	1	44	44
	2	44	44
	3	43	40
10	1	43	43
	2	45	42
	3	40	44
average		47	46
slip resistance indicator USRV (Unpolished Slip Resistance Value)			46
standard deviation			4.4



Table 3

Slip resistance examination results for three-layer flooring components of BALTIC WOOD with their top layer made of oak hardwood, finished with natural oil produced by OSMO GmbH

Sample number	Measurement number	Direction of measurement	
		along the grains	across the grains
1	1	68	80
	2	70	80
	3	70	81
2	1	75	80
	2	75	81
	3	76	81
3	1	76	81
	2	76	82
	3	76	83
4	1	78	82
	2	80	82
	3	78	84
5	1	76	78
	2	76	80
	3	76	80
6	1	74	80
	2	74	80
	3	74	80
7	1	75	82
	2	76	82
	3	75	83
8	1	77	85
	2	76	85
	3	80	80
9	1	74	79
	2	75	80
	3	74	82
10	1	78	80
	2	74	82
	3	74	80
average		75	81
slip resistance indicator USRV (Unpolished Slip Resistance Value)			78
standard deviation			3.7



Table 4

Slip resistance examination results for three-layer flooring components of BALTIC WOOD with their top layer made of oak hardwood, finished with transparent oil produced by OSMO GmbH

Sample number	Measurement number	Direction of measurement	
		along the grains	across the grains
1	1	74	74
	2	72	74
	3	72	75
2	1	74	71
	2	77	72
	3	72	74
3	1	76	76
	2	78	74
	3	76	76
4	1	74	76
	2	76	76
	3	76	78
5	1	70	70
	2	68	70
	3	70	71
6	1	66	72
	2	68	72
	3	70	74
7	1	70	68
	2	72	72
	3	72	72
8	1	71	70
	2	72	72
	3	72	72
9	1	74	72
	2	74	72
	3	74	70
10	1	74	70
	2	72	72
	3	72	68
average		73	72
slip resistance indicator USRV (Unpolished Slip Resistance Value)			72
standard deviation			2.6



6. OPINION AND INTERPRETATIONS

Pursuant to Standard PN-EN 14342+A1:2009 "Wood flooring. Characteristics, evaluation of conformity and marking" the slip resistance is conducted using the method of *CEN/TS 15676*. This standard does not indicate any values required for this parameter.

However, the required value of this parameter was specified for the surfaces of sports flooring, including the lacquer-finished wood flooring, in standard *PN-EN 14904:2009* "Surfaces for sports areas. Indoor surfaces for multi-sports use. Specification". The value of the slip resistance parameter required by the latter standard, determined in the way analogous to the definition in standard *CEN/TS 15676* should range within 80 – 110.

7. STATEMENT/ DECLARATION

The results of the examination/testing quoted in this Report refer solely to the product test samples examined / tested.

The report must not be copied partially but as a whole only.

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I hereby certify that to the best of my knowledge the foregoing is a true, accurate and complete translation of the original document in the Polish language, presented to me.
Krosno, dated 16th November, 2009 Rep. No. 340/09



TLUMACZ PRZYSIĘGLY
SWORN TRANSLATOR
Mgr Janina Podbilska-Pajak