



Report 69819

Test Report

Applicant

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Reference

Ref. No. 489
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Application

Testing and classification according to EN 15114 as well as castor chair suitability, suitability for using on stairs, resistance to fraying and static electrical propensity.

Test Material

"epoca structur wt"

Material used in testing was anonymized for laboratory purposes. A detailed sample list is contained in the report.

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1 Order

1.1 Chronology

<i>Date</i>	<i>Received</i>	<i>Order</i>
2012-10-22	2012-10-22	Testing and classification according to EN 15114 as well as castor chair suitability, suitability for using on stairs, resistance to fraying and static electrical propensity.

1.2 Samples

<i>No.</i>	<i>Received</i>	<i>Sample Identification</i>
1	2012-10-22 ⁽¹⁾	"epoca structur wt"
2	2012-10-30 ⁽¹⁾	"epoca structur wt (subsequent delivery of sample 1)"

(1) Samples provided by the customer. (2) Sample drawn by ÖTI.



2 Findings / Tests performed

2.1 Description of specimen

Description of specimen according to ISO 2424

Test Results

Sample tested: 1

Dimensions:	rolls
Manufacturing procedure:	woven (without pile)
Structure of face side:	loop pile
Coloration of face side:	multicoloured unpatterend
Type of backing:	textile secondary backing
Type of fibres at face side *):	100% Polyamide (according to the specification by the applicant)

*) In accordance with the at present valid version of the appropriate European Directives; fibre materials less then 2 % are not considered

According to EN 15114, this is a textile floor covering without pile.

2.2 Determination of mass per unit area

Test conditions

According ISO 8543

Test atmosphere: 20° C / 65 % rel. humidity

Number of specimens: 4

Test results

Tested sample: 1

	Mass per unit area
Mean value	2337 g/m²
Coefficient of variation	1.2 %
Confidence interval (P = 95 %) absolute width	± 44 g/m ²



2.3 Determination of thickness

Test conditions

Testing according ISO 1765
Test atmosphere: 20° C / 65 % rel. humidity
Number of specimens: 4

Test results

Tested sample: 1

	total thickness
Mean value	4.6 mm
Coeffizient of variation	0.0 %
Coeffizient interval (P=95 %) absolute width	± 0 mm

2.4 Determination of hairiness (pilling)

Test Conditions

Testing according EN 1963, test D
Duration: 200 double passages

Test Results

Tested sample: 1

Samples	Assessment of appearance after 200 double passages according Photo standard	
	longitudinal direction	cross direction
Total Median	5	5
Worst Result	5	

Evaluation

The specimen fulfills the requirements of EN 15114.



2.5 Determination of dimensional changes after exposure to heat and water

Test conditions

According to ISO/PAS 17 984, method 3

Test results

Tested sample: 1

		Dimensional change [%]	
		length	cross
1. Treatment 2 hours storage (drying) at 60 °C	1. Measurement	±0.0	-0.4
	2. Measurement	±0.0	-0.4
	3. Measurement	-0.3	±0.0
	Mean value	-0.1	-0.3
2. Treatment 2 hours storage in water at 20 °C	1. Measurement	±0.0	+0.1
	2. Measurement	±0.0	±0.0
	3. Measurement	±0.0	+0.1
	Mean value	±0.0	±0.0
3. Treatment 24 hours storage (drying) at 60 °C	1. Measurement	-0.7	+0.1
	2. Measurement	-0.7	±0.0
	3. Measurement	-0.6	+0.1
	Mean value	-0.6	±0.0
4. Treatment 48 hours storage at standard atmosphere	1. Measurement	-0.6	+0.1
	2. Measurement	-0.6	±0.0
	3. Measurement	-0.4	-0.1
	Mean value	-0.5	±0.0

Description of the final appearance: **no deformation**

Note:

A plus (+) is used to indicate an increase and a minus (-) is used to indicate shrinkage in dimensions.



2.6 Determination of the basic requirement of carpets without pile

Test conditions ^A

According to EN 15114:2008

Test results

Tested sample: 1

	Basic requirements	Test results
Colour fastness to ^{a)}		
♦ Light	≥ 5 (pastel shade ^{b)} ≥ 4)	Conformity to be declared by the manufacturer for each colour
♦ Rubbing		
- dry	≥ 3-4	
- wet	≥ 3	
♦ Water – change in colour		
- plain carpets	≥ 3-4	
- other carpets	≥ 4	
♦ Water – staining ^{c)}		
- - all carpets	≥ 2-3	
Hairiness/ Pilling^{e)}	≥ 2-3	5.0
Colour change ^{d)}		
♦ Due to spilled water	≥ 4	Conformity to be declared by the manufacturer for each production run
♦ Due to soiling subsequent to spilled water	≥ 3	
Dimensional change^{f)}	Shrinkage (both directions): ≤ 1,2% Expansion (both directions): ≤ 0,5%	Length: - 0.6 % Cross: ± 0.0 %

a) Conformity to be declared by the manufacturer for each colour

b) Pastel shade: colour corresponding to a standard depth ≤ 1/12 (in accordance with EN ISO 105-A01)

c) On multi fibre: worst result

d) Conformity to be declared by the manufacturer

e) Worst result (of longitudinal or cross direction)

f) Not valid for tiles (see Annex A), not valid for permanently glued floor coverings.

Judgement

The tested material fulfills the basic requirements of carpets without pile according to EN 15114:2008, point 4.



2.7 Determination of changes in appearance – Drum Test

Test conditions

According to EN 1307 and ISO/TR 10 361
Assessment according EN 1471
Number of drum revolutions: 5 000 and 22 000
Number of specimens: 1

Test results

Tested sample: 1

	5 000 revolutions	22 000 revolutions
Index of appearance change (median)	5.0	4.5
Index of colour change (median)	5.0	4.5
Main reasons for change	--	colour
Index after colour correction (median)	5.0	4.5
Index after colour correction (mean)	5.0	4.5
Damages by the treatment	none	

Assessment indices: Index 1 – high change, Index 5 – no change

2.8 Determination of the mass loss of textile floor coverings using the Lisson Tretrad machine

Test conditions

According to EN 1963, test A
Soles: Vulcanised SBR-rubbers with a wave profile
Number of treads: 2200
Adjustment of wheel height: -5 mm
Number of specimens: 4

Test results

Tested sample: 1

	Mass loss per unit area [m _v]	Relative mass loss [m _v]
Mean value	no mass loss	
Coefficient of variation		
Confidence interval (P = 95 %) absolute width		
Tretradindex:	--	

Note:

The primary function of the test with the "Lisson-Tretrad-Machine" is to obtain from textile floor coverings a criteria for the wear performance in practical use. The used "Lisson-Tretrad" with four feet – which are covered with changeable rubber soles – runs on a straight line forwards and backwards, with a slip of 20 % and a surface pressure of 150 N, on the surface of the test specimen (which is lying on a test table). After a defined count of reciprocating motion the mass loss will be ascertained.



2.9 Determination of general structural integrity

Test conditions

Testing according: EN 985, test C

Test apparatus: castor chair test equipment from Feingerätebau Baumberg

Typ of castors: single-wheel swivel castor, type H

Test Results

Tested sample: 1

Duration	Damages by the treatment
10 000 cycles	none
25 000 cycles	none

2.10 Classification of carpets without pile

Test conditions

According to EN 15114:2008

Test results

Tested sample: 1

Material of the use surface (by the applicant)	100% Polyamide
Specification of the change in appearance	
Drum test ♦ Short term [5.000 turns]	5.0
(Vettermann) ♦ Long term [22.000 turns]	4.5
Specification of wear behaviour	
Lisson-Tretrad ♦ Mass loss m_v (g/m ²)	no mass loss
Specification of general structural integrity	
Damages by the treatment ♦ Short term [10.000 turns]	no damages by the treatment
♦ Long term [25.000 turns]	no damages by the treatment

Classification

Classification of change in appearance	class 33
Classification of wear behaviour	class 33
Classification of general structural integrity	class 33
Overall use class	class 33
Luxury rating class	LC1 *)

*) : Carpets without pile are classified in luxury rating class LC1 according to EN 15114 point 6.

**Explanations:**

Textile floor coverings are classified to their suitability in different use classes. There are three essential characteristics for the classification: change in appearance, wear behaviour and general structural integrity. These three characteristics serve the description of the use behaviour in dependence to the intensity of use. **The use class assigned to the carpet is the lowest one that was reached after the testing.** The different use classes are described as followed:

Domestic		Commercial	
Class	Use intensity	Class	Use intensity
21	moderate / light	---	---
22	general / medium	---	---
22+	general	31	light
23	heavy	32	general
---	---	33	heavy

The use- and comfort-classes are corresponding to the following till now common judgements for the wear- and comfort behaviour.

Level of use classification		"use class"
EN 15114	EN 1307:1997	
21	1	low
22	2	normal
22+ / 31		
23 / 32	3	heavy
33	4	extreme

Luxury rating class	"luxury value"
LC 1	plain
LC 2	good
LC 3	high
LC 4	luxurious
LC 5	prestige



2.11 Determination of the castor chair suitability of textile floor coverings

Test conditions ^A

According to EN 985, Method A

Test apparatus: castor chair test equipment, Typ: Feingerätebau Baumberg

Castors: according EN 985

Test results

Tested sample: 1

Test duration	change of attribute	Index of colour change *)	Index of appearance change *)
5 000 revolutions	colour	4	4.0
25 000 revolutions	colour	3-4	3.5
Castor chair index (r)		3.9	

*) Note: Index 1 - high change / Index 5 - no change

Damages by the treatment: none

Classification

According the specifications of EN 15114 the specimen can be classified as:

"suitable for intensive use"

2.12 Classification of the suitability for use on stairs

Test conditions ^A

According to EN 1963; Test method B: nosing test

Test results

Tested sample: 1

Appearance change*) in the edge area	low appearance change
---	------------------------------

*)complete mean

Classification

According to EN 1307 the specimen can be classified as suitable

"for intensive use"

Note: A workmanlike construction of the stair nose with a rounding radius of at least 10 mm is presupposed to the judgement.



2.13 Determination of the resistance to fraying

Test conditions

Testing according to EN 1814:2005
Number of test samples: 4
Kind of test sample: Sheet materials

Test results

Tested sample: 1
Damages on cut edge after treatment: none

Judgement

The tested specimen can be classified as **resistant to fraying**.

2.14 Assessment of static electrical propensity – walking test

Test Conditions

According to ISO 6356
Testing atmosphere: 23 ± 1 °C / 25 ± 3 % rel. humidity
Base plate: Isolating rubber mat on metal plate
Sole-material: XS-664P Neolite
Pretreatment: none

Test results

Tested sample: 1

Supplied condition			
Measurement 1	Measurement 2	Measurement 3	Mean value
-1.5 kV	-2.1 kV	-2.2 kV	-1.9 kV

Judgement

The tested sample in supplied condition can be classified as **antistatic** according EN 14041:2004.



3 Summary of results

Article	"epoca structur wt"																		
Constructive characteristics material of use surface (by the applicant) Total mass per unit area Total thickness	polyamide 2337 g/m ² 4.6 mm																		
Basic requirements Hairiness "pilling" (EN 1963 method D) Dimensions stability (ISO 2551) <ul style="list-style-type: none"> - length direction - cross direction 	fulfilled 5.0 -0.6 % ±0.0 %																		
Tests for determination of use classification level Change in appearance – "Vettermann" drum test (ISO 10361) Grade after colour correction – 5000 cycles Grade after colour correction – 22000 cycles Wear behaviour (EN 1963 method A) Mass loss per unit area [mv] General structural integrity (EN 985 method C) Damages by treatment <ul style="list-style-type: none"> - 10000 cycles - 25000 cycles 	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%;">Median</th> <th style="width: 25%;">Mean value</th> </tr> </thead> <tbody> <tr> <td>Grade after colour correction – 5000 cycles</td> <td>grade 5.0</td> <td>grade 5.0</td> </tr> <tr> <td>Grade after colour correction – 22000 cycles</td> <td>grade 4.5</td> <td>grade 4.5</td> </tr> <tr> <td>Mass loss per unit area [mv]</td> <td colspan="2" style="text-align: center;">no mass loss</td> </tr> <tr> <td>Damages by treatment</td> <td colspan="2" style="text-align: center;">none</td> </tr> <tr> <td></td> <td colspan="2" style="text-align: center;">none</td> </tr> </tbody> </table>		Median	Mean value	Grade after colour correction – 5000 cycles	grade 5.0	grade 5.0	Grade after colour correction – 22000 cycles	grade 4.5	grade 4.5	Mass loss per unit area [mv]	no mass loss		Damages by treatment	none			none	
	Median	Mean value																	
Grade after colour correction – 5000 cycles	grade 5.0	grade 5.0																	
Grade after colour correction – 22000 cycles	grade 4.5	grade 4.5																	
Mass loss per unit area [mv]	no mass loss																		
Damages by treatment	none																		
	none																		
Classification according EN 15114 Basic requirements Classification of change in appearance Classification for wear Classification for general structural integrity Level of use classification Luxury rating classification	fulfilled Class 33 Class 33 Class 33 Class 33 LC1																		
Additional characteristics Castor chair suitability (EN 985) Suitability for use on stairs (EN 1963 method D) Fraying behaviour (EN 1814) Antistatic (ISO 6356) Walking test (supplied condition)	suitable for intensive use suitable for permanent use resistant to fraying -1.9 kV																		



4 Remarks

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