



Report 55989

Test Report

Applicant

Reference

EGETAEPPEL A/S
Industrivej Nord 25
7400 Herning
DÄNEMARK

Mrs. Ormstrup

Application

Testing and classification according prEN 15114, stair and castor chair suitability, fraying resistance, electrical propensity and vertical resistance.

Test Material

"EPOCA COMPACT"

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

Issuing and Signatures

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Authorised for test laboratory,
Ing. Judith Pointner

.....

Authorised for technical group,
Ing. Hanspeter Bauer

.....

Director,
Dipl.-Ing. Dr. Erich Zippel

.....





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1 Order

1.1 Chronology

<i>Date</i>	<i>Received</i>	<i>Order</i>
2006-10-23	2006-11-17	Testing and classification according prEN 15114, stair and castor chair suitability, fraying resistance, electrical propensity and vertical resistance.

1.2 Samples

<i>No.</i>	<i>Received</i>	<i>Sample Identification</i>	<i>Sample Material</i>
1	2006-11-17 (1)	"EPOCA COMPACT"	carpet, 2 pieces approx. 410 cm x 168 cm
	2007-03-02 (1)		carpet, 1 piece approx. 300 cm x 151 cm
	2007-07-03 (1)		carpet, 1 piece approx. 400 cm x 150 cm

(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 (pile carpet)
Structure of face side:	loop pile
Coloration of face side:	multicoloured unpatterned
Type of backing:	textile secondary backing
Type of fibres at face side *):	100% Polyamide (declaration by the applicant)

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

2.2 Determination of mass per unit area

Test conditions

Testing according ISO 8543

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

Number of specimens: 4

Test results

Tested sample: 1

Mean value	Mass per unit area	
	Coefficient of variation	Confidence interval (P = 95 %) absolute width
2206 g/m ²	1,1 %	± 40 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

Mean value	thickness	
	Coefficient of variation	Confidence interval P = 95 %) absolute width
4,0 mm	0,2 %	± 0,1 mm



2.4 Determination of hairiness (pilling)

Test Conditions

Testing according EN 1963, test D
Duration: 100 and 200 double passages

Test Results

Tested sample: 1	Assessment of appearance according Photo standard	
	after 100 double passages	after 200 double passages
Total median	5,0	4,5

2.5 Determination of dimensional changes after exposure to heat and water

Test conditios

According to ISO/PAS 17 984, method 3

Test results

Tested sample: 1		Dimensional change	
		length	cross
1. Treatment 2 hours drying at 60 °C	1. Measurement	- 0,3 %	- 0,4 %
	2. Measurement	- 0,3 %	- 0,4 %
	3. Measurement	- 0,3 %	- 0,3 %
	Mean value	- 0,3 %	- 0,4 %
2. Treatment 2 hours water 20 °C	1. Measurement	+ 0,2 %	± 0,0 %
	2. Measurement	+ 0,1 %	± 0,0 %
	3. Measurement	+ 0,2 %	± 0,0 %
	Mean value	+ 0,2 %	± 0,0 %
3. Treatment 24 hours drying at 60 °C	1. Measurement	+ 0,3 %	+ 0,1 %
	2. Measurement	+ 0,3 %	± 0,0 %
	3. Measurement	+ 0,1 %	- 0,1 %
	Mean value	+ 0,3 %	± 0,0 %
4. Treatment 48 hours standard climate	1. Measurement	- 0,6 %	- 0,3 %
	2. Measurement	- 0,6 %	- 0,3 %
	3. Measurement	- 0,6 %	- 0,4 %
	Mean value	- 0,6 %	- 0,3 %

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

Description of the final appearance: no deformation



2.6 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	4-5
Main reasons for change:	--	colour
Index after colour correcture (median):	5,0	4,5
Index after colour correcture (mean):	5,0	4,5

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

Damages by the treatment: none

2.7 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: 2000
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_r)
Mean value	no mass loss	
Coefficient of variation		
Confidence interval (P=95 %) absolute width		

2.8 Determination of general structural integrity

Test conditions

Testing according: EN 985, test C
Test apparatus: castor chair test equipment from Feingerätebau Baumberg
Type of castors: single-wheel swivel castor



Test Results

Tested sample: 1

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

2.9 Determination of the basic requirement of textile floor coverings without pile

Test conditions

Testing according prEN 15114:2006

Test Results

Tested sample: 1

	Basic requirements	Test results
Colour fastness to		
♦ Light	≥ 5 (pastel shade ≥ 4) ¹⁾	Conformity to be declared by the manufacturer for each colour
♦ Rubbing		
- dry	$\geq 3-4$	
- wet	≥ 3	
♦ Water – change in colour		
- plain carpets	$\geq 3-4$	
- other carpets	≥ 4	
♦ Water – staining		
- all carpets	$\geq 2-3$ ²⁾	
Hairiness (pilling) ³⁾	$\geq 2,5$	4,5
Colour change		
♦ 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 stability ⁴⁾	Shrinkage $\leq 1,2$ % in each direction Extension $\leq 0,5$ % in each direction	Shrinkage: length: - 0,6 % cross: - 0,4 % Extension: length: + 0,3 % cross: none

1) Pastel shade: colour corresponding to standard depth $\leq 1/12$ (in accordance with EN ISO 105 A01)

2) On multifibre: worst result

3) tested production-wise and cross-wise, worst result decisive

4) not applicable for tiles

Judgement

The tested material fulfills the basic requirements of textile floor coverings without pile according to prEN 15114:2006, point 4.



2.10 Classification of textile floor coverings without pile

Test conditions

According to prEN 15114:2006

Test results

Tested sample: 1

Classification requirements for change in appearance			
Drum Test (Vettermann)	♦ short term	[5.000 cycles]	5,0
	♦ long term	[22.000 cycles]	4,5
Classification requirements for wear			
Lisson Tretrad test	♦ Mass loss per unit area m_v	[g/m ²]	no mass loss
Classification requirements for general structural integrity			
Damages by the treatment	♦ short term	[10.000 cycles]	none
	♦ long term	[25.000 cycles]	none

Classification

Classification for change in appearance	class 33
Classification for wear	class 33
Classification for general structural integrity	class 33

Level of use classification	class 33
Luxury rating classification *)	LC1

*) For luxury rating textile floor coverings without a pile shall be classified according prEN 15114:2006 point 4 as "LC1"

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 lower one that was reached after the testing of the change in appearance, wear behaviour and general structural integrity.** 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	moderate / 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"	Luxury rating class	"luxury value"
prEN 15114:2006	EN 1307:1997			
21	1	low	LC 1	plain
22	2	normal	LC 2	good
22+ / 31				
23 / 32	3	heavy	LC 3	high
33	4	extreme	LC 4	luxurious
			LC 5	prestige

2.11 Determination of the castor chair suitability of textile floor coverings

Test conditions

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 *)
after 5 000 revolutions	colour	4	3,5
after 25 000 revolutions	colour	3	3,0
Castor chair index (r)	3,4		

*) 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 continuous use

2.12 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
+0,4 kV	+0,2 kV	-0,1 kV	0,2 kV

Judgement

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

2.13 Determination of electrical resistances

Test conditions

According to ISO 10965

Test atmosphere: 23°C ± 1°C / 25% ± 3% rel. humidity

Circuit voltage: 500 V

Test results

Tested sample: 1

Sample	Measurement	Vertical resistance	Horizontal resistance
1	1	6,5 x 10 ¹⁰ Ω	1,3 x 10 ¹² Ω
	2	6,0 x 10 ¹⁰ Ω	1,3 x 10 ¹² Ω
2	1	6,0 x 10 ¹⁰ Ω	1,0 x 10 ¹² Ω
	2	5,6 x 10 ¹⁰ Ω	1,1 x 10 ¹² Ω
3	1	6,5 x 10 ¹⁰ Ω	1,2 x 10 ¹² Ω
	2	5,8 x 10 ¹⁰ Ω	1,3 x 10 ¹² Ω
Geometric mean value		6,1 x 10 ¹⁰ Ω	1,2 x 10 ¹² Ω

2.14 Classification of the suitability for use on stairs

Test conditions

According to EN 1963

Test method: Test B: nosing test

Test results

Tested sample: 1

Overall median of the appearance change in the edge area: **Note 3**

Judgement note: Note 1 - extreme appearance change / Note 2 - moderate appearance change / Note 3 - low appearance change

Classification

According to EN 1963 the specimen can be classified as **suitable for use area 4 ("extreme")** – corresponds to **class 33**

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



2.15 Summary of Results

		"EPOCA COMPACT"	
Details			
- material of use surface (by the applicant)	100% polyamide		
- Total mass per unit area	2206 g/m ²		
- Total thickness	4,0 mm		
Fibre bind, EN 1963, method D			
- Change in appearance after 100 cycles	grade 5,0		
- Change in appearance after 200 cycles	grade 4,5		
Dimensional stability			
	length direction	cross direction	
- max. shrinkage	- 0,6 %	- 0,4 %	
- max. extension	+ 0,3 %	none	
Change in appearance – drum test			
	Median	Mean value	
- Grade after colour correcture – 5000 cycles	grade 5,0	grade 4,5	
- Grade after colour correcture – 22000 cycles	grade 5,0	grade 4,5	
Mass loss, EN 1963, method A			
- Mass loss per unit area (m _v)	no mass loss		
General resistance, EN 985, method C			
- Damages by the treatment	no damages		
Classification according prEN 15114 05/2006)			
- Basic requirements	fulfilled		
- Level of use classification	class 33		
- Comfort class	LC1		
Additional characteristics			
- Castor chair suitability	A – suitable for permanent use		
- Antistatic			
Walking test	0,2 kV		
Classification	antistatic in supplied condition		
- Electrical properties			
vertical resistance	6,1 x 10 ¹⁰ Ω		
horizontal resistance	1,2 x 10 ¹² Ω		
- Stair suitability	suitable for wear class 4 *)		

*) corresponds to class 33



3 Remarks

Sample Material

Results of performed tests only refer to the sample material provided.

Without explicit written other agreement testing is destructive and the sample material is transferred to the property of ÖTI, which is entitled to freely decide on storage and disposal.

Quality management and accreditations

This issue replaces report 53836, dated 2007-07-19.

All tests and services are performed under a quality management system according to EN ISO 17025.

ÖTI is accredited by several organisations for various tests offered. It also is a Notified Body with the registration number 0534. The accreditation by the Federal Ministry as testing laboratory was repeated under reference 92.714/0211-I/12/2007 (Individual accredited test procedures are marked with the federal laboratory logo), the accreditation for testing and surveillance of building products was given by the OIB (Österreichisches Institut für Bautechnik). Details and other accreditations are given on request and can be found on www.oeti.at.

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