Report 72540
Test Report

Akkreditierung Austria A 0012 ISO/IEC 17025

Applicant

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Reference

Ref. No. 489
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Application

Determination according to the classification criteria of EN 1307 as well as castor chair suitability, suitability for using on stairs, resistance to fraying and static electrical propensity.

Test Material

"Epoca Rips wt"

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

Issuing and Signatures

Number of pages contained: 13

Original Issue / Vienna 2013-12-17 / MM/KK/SW 120

Authorised for Institute
Ing. Franz Lenz

Contents

1 Order

1.1 Chronology

Date	*Received*	*Order*
2013-11-25	2013-11-25	Determination according to the classification criteria of EN 1307 as well as castor chair suitability, suitability for using on stairs, resistance to fraying and static electrical propensity.

1.2 Samples

No.	*Received*	*Sample Identification*
1	2013-11-21 (1)	"Epoca Rips wt"

(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

Tested sample: 1

Dimensions:	rolls
Manufacturing procedure:	tufted
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 (according to the specification by the applicant)

*) According to the current version of the relevant European Directives, fibre materials with a mass percentage of < 2 % are not specified

The submitted specimen is a textile floor covering according to EN 1307.

2.2 Determination of mass per unit and pile mass per unit area

Test conditions

According ISO 8543 accr.)
Test atmosphere: 20° C / 65 % rel. humidity
Type of shearing apparature: Sharp pointed knife
Number of samples: 4

Test results

Tested sample: 1

	mass per unit area	pile mass per unit area
Mean value	**2065 g/m²**	**584 g/m²**
Coefficient of variation	2.5 %	0.5 %
Confidence interval (P = 95 %) absolute width	± 84 g/m²	± 5 g/m²

Note:
The pile mass per unit area of pile carpets represents the mass over the carpet-ground which can be sheared with the sharp pointed knife. If other procedures are consulted for the shearing of the pile material, then is to be counted on deviating results. The pile mass per unit area should not be confounded with the pile weight.

2.3 Determination of thickness and thickness of wear layer

Test conditions

Testing according
Determination of thickness according to ISO 1765 accr.)
Determination of thickness of wear layer according to ISO 1766 accr.)
Test atmosphere: 20° C / 65 % rel. humidity
Shearing methode: Sharp pointed knife
Number of samples: 4

Test results

Tested sample: 1

	total thickness	thickness of wear layer
Mean value	**5.3 mm**	**3.0 mm**
Coeffizient of variation	0.9 %	2.1 %
Confidence interval (P = 95 %) absolute width	± 0.1 mm	± 0.1 mm

2.4 Calculation of surface pile density and pile fibre volume ratio

Test conditions

The calculation was made according ISO 8543 accr.) with integration of the following test results:

Pile material	Polyamide
Density of pile material	1.14 g/cm³
Mass of pile per unit area	584 g/m²
Thickness of above the substrate pile	3.0 mm

Test results

Tested sample: 1

Surface pile density	0.195 g/cm³
Relative surface pile density	17.1 %

2.5 Determination of number of tufts or loops

Test conditions

According to ISO 1763 accr.)

Test results

Tested sample: 1

Number of tufts or loops / 10 cm	in length direction:	55.4
	in cross direction:	25.6
Number of tufts or loops per dm²:		1418
Number of tufts or loops per m²:		141800

2.6 Determination of fibrebind of synthetic looppile carpets

Test conditions

Testing according EN 1963, Test C accr.)
Evaluation according: EN 1307
Duration: 400 double passages

Test results

Tested sample: 1

Assessment of appearance change: better than photostandard

Evaluation

The specimen fulfills the requirements of EN 1963 or 1307.

2.7 Determination of the basic requirement of pile carpets

Test conditions

According to EN 1307:2008 accr.)

Test results

Tested sample: 1

Surface structure	Loop pile
Pile material	Polyamide

	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	
Fibre bind for all carpets < 80 % Wool		
• Loop pile carpets	Fuzzing below level of reference photographs	fullfills
• Cut pile carpets	Loss of mass ≤ 25 %	--
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	

a) Conformity to be declared by the manufacturer for each colour
b) Pastel shade: colour corresponding to a standard depht ≤ 1/12 (in accordance with EN ISO 105-A01)
c) On multi firbe: worst result
d) Conformity to be declared by the manufacturer

Judgement

The tested material fulfills the basic requirements of pile carpets according to EN 1307:2008, point 6.

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

Test conditions

According to EN 1963, test A accr.)
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_{rv}]
Mean value	**no mass loss**	
Coefficient of variation		
Confidence interval (P = 95 %) absolute width		

Tretradindex:	4.7

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 changes in appearance – Drum Test

Test conditions

According to EN 1307 and ISO/TR 10 361 accr.)
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)	4.5	4.0
Index of colour change (median)	4-5	4
Main reasons for change	structure	structure
Index after colour correction (median)	**4.5**	**4.0**
Index after colour correction (mean)	**4.4**	**3.8**
Damages by the treatment	none	

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

2.10 Determination of the resistance to fraying

Test conditions

Testing according to EN 1814:2005 accr.)
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.**

2.11 Classification of pile carpets

Test conditions

According to EN 1307:2008 accr.)

Test results

Tested sample: 1

Surface structure			loop pile
Pile material			Polyamide
Surface pile weight		[g/m²]	584
Surface pile thickness		[mm]	3.0
Surface pile density		[g/cm³]	0.195
Number of tufts		[tufts/m²]	141800
Fibre factor		[FF]	1.0
Tretrad index		[I_{TR}]	4.7
Drum test (Vettermann)	• Short term	[5.000 turns]	4.5
	• Long term	[22.000 turns]	4.0
Resistance to fraying			Resistance to fraying
Luxury rating factor		[C_F]	9.4

Classification

Type of carpet	Type 1
Classification for wear	class 33
Classification for change in appearance	class 33

Overall use class	**class 33**
Luxury rating class	**LC 2**

Explanations:
Textile floor coverings are classified to their suitability in different use classes. There are two essential characteristics for the classification: wear behaviour and change in appearance. These both 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 wear behaviour and change in appearance.** 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"
EN 1307:2008	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

2.12 Determination of the castor chair suitability of textile floor coverings

Test conditions

According to EN 985, Method A accr.)
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 appear-ance change *)
5 000 revolutions	colour	3	3.0
25 000 revolutions	Colour, structure	2-3	2.5
Castor chair index (r)	**2.9**		

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

Damages by the treatment: none

Classification

According the specifications of **EN 1307** the specimen can be classified as:

"suitable for intensive use"

2.13 Assessment of static electrical propensity – walking test

Test conditions

According to ISO 6356 accr.)
Testing atmosphere: 23 °C / 25 % 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**
-0.8 kV	-1.3 kV	-1.3 kV	**-1.1 kV**

Judgement

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

2.14 Classification of the suitability for use on stairs

Test conditions

According to EN 1963; Test method B: nosing test accr.)

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.

2.15 Summary of Results

Article	"Epoca Ribs wt"	
Constructive characteristics		
Material of use surface	Polyamide	
Total mass per unit area	2065 g/m²	
Mass of pile per unit area	584 g/m²	
Total thickness	5.3 mm	
Thickness of pile above the substrate	3.0 mm	
Surface pile density	0.195 g/cm³	
Number of tufts or loops	141800 /m²	
Basic requirements	**fulfilled**	
Fibre bind - Loop-Pile Carpets		
Lisson Tretrad (EN 1963, method C) - appearance change	better than photostandard	
Tests for determination of use classification level		
Wear behaviour "Lisson-Tretrad" (EN 1963 method A)		
mass loss per unit area [m_v]	no mass loss	
relative mass loss [m_{rv}]	no mass loss	
Tretradindex [I_{tr}]	4.7	
Change in appearance – "Vettermann" drum test (ISO 10 361)	Median	Mean value
assesment after colour correction – 5000 cycles	Note 4.5	Note 4.4
assesment after colour correction – 22000 Touren	Note 4.0	Note 3.8
Classification according EN 1307		
Carpet category	Type 1	
Basic requirements	fulfilled	
Classification of the wear performance	Class 33	
Classification of the appearance retention	Class 33	
Level of use classification	**Class 33**	
Use intensity	domestic use 23 "heavy" commercial use 33 "heavy"	
Luxury rating classification	**LC2**	
Luxury value	LC2 "good"	
Additional characteristics		
Castor chair suitability (EN 985)	suitable for intensive use	
Antistatic (ISO 6356)	-1.1 kV	
Suitability for use on stairs (EN 1963 method B)	**"suitable for intensive use"**	
Fraying behaviour (EN 1814)	**resistant to fraying**	

3 Remarks

Validity

There are no regulations concerning duration of validity in the individual test standards. As the results of the examinations refer only to the submitted and examined samples, the report is valid for these for an unlimited period. A period of validity specified as part of an expert evaluation is in the discretion of the consultant or the ÖTI.

The applicability of results and expert evaluations for materials not tested is in the responsibility of the applicant. Whereby an apportionment of results as well as any specified period of validity can only be done for identically constructed products and only as long as the product produced unchanged.

Possible national or international restrictions concerning the terms of usability of test and classification reports have to be considered; this is not the responsibility of the test laboratory.

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.

Issuance

The valid first issue is done in paper and has single-handed signatures. For reference purposes and filing an unsigned electronic duplicate can be delivered in pdf format. Duplicates and translations will be marked accordingly on the cover sheet.

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All tests and services are performed under a quality management system according to EN ISO/IEC 17025 respectively EN ISO/IEC 17065.

The ÖTI is accredited as Testing Laboratory and Certification Body for products. It also is a Notified Body for several directives with the registration number 0534 (see http://ec.europa.eu/enterprise/newapproach/nando/). Accreditation as Testing Laboratory was provided by Akkreditierung Austria (Federal Ministry of Economy, Family and Youth). The scope of accreditation is listed on www.bmwfj.gv.at/akkreditierung.

In this report test conditions of individual accredited test procedures are marked with *accr.)*

According to the decree on the use of the accreditation mark ("AkkZV") the accreditation mark is only to be used by the accredited Conformity Assessment Body.

Application of the registration number of the Notified Body: As to personal protective equipment (PPE) the requirements of PSA-SV § 10, BGBl. Nr. 596/1994 as amended and article 13 of the Directive 89/686/EEC have to be kept. With construction products the application is only permitted within the declaration of performance for CE-marking.

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