



Report 67681 Test Report

Applicant

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Reference

Ref. No. 489

Application

Testing and classification according to EN 1307 and determination of static electrical propensity.

Test Material

"highline 80/20 1900 wt"

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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1 Order

1.1 Chronology

<i>Date</i>	<i>Received</i>	<i>Order</i>
2011-12-15	2011-12-15	Testing and classification according to EN 1307 and determination of static electrical propensity.

1.2 Samples

<i>No.</i>	<i>Received</i>	<i>Sample Identification</i>
1	2011-12-14 ⁽¹⁾	"highline 80/20 1900 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

Sample tested: 1

Dimensions:	rolls
Manufacturing procedure:	tufted
Structure of face side:	cut pile
Coloration of face side:	multicolored patterned
Type of backing:	textile secondary backing
Type of fibres at face side *):	80% wool/20% polyamide (according to the specification by the applicant)

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

According to EN 1307, this is a pile carpet.

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

Test conditions

According ISO 8543

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

Type of shearing apparatus: Sharp pointed knife

Number of samples: 4

Test results

Tested sample: 1

	mass per unit area	pile mass per unit area
Mean value	3228 g/m ²	1507 g/m ²
Coefficient of variation	0.1 %	0.5 %
Confidence interval (P = 95 %) absolute width	± 6 g/m ²	± 12 g/m ²

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 it 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

Determination of thickness of wear layer according to ISO 1766

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

Shearing method: Sharp pointed knife

Number of samples: 4

Test results

Tested sample: 1

	total thickness	thickness of wear layer
Mean value	10.1 mm	7.5 mm
Coeffizient of variation	0.0 %	0.0 %
Confidence interval (P = 95 %) absolute width	± 0.0 mm	± 0.0 mm

2.4 Calculation of surface pile density and pile fibre volume ratio

Test conditions

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

Pile material	80% wool / 20% polyamide
Density of pile material	1.28 g/cm ³
Mass of pile per unit area	1507 g/m ²
Thickness of above the substrate pile	7.5 mm

Test results

Tested sample: 1

Surface pile density	0.201 g/cm ³
Relative surface pile density	15.6 %



2.5 Determination of number of tufts or loops

Test conditions

According to ISO 1763

Test results

Tested sample: 1

Number of tufts or loops / 10 cm	in length direction:	51.6
	in cross direction:	32.3
Number of tufts or loops per dm ² :		1667
Number of tufts or loops per m ² :		166700

2.6 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: ± 0 mm

Number of specimens: 4

Test results

Tested sample: 1

	Mass loss per unit area [m _v]	Relative mass loss [m _r]
Mean value	164 g/m ²	10.9 %
Coefficient of variation	5.6 %	5.6 %
Confidence interval (P = 95 %) absolute width	± 15 g/m ²	± 1.0 %
Tretradindex:	6.6	

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.



2.7 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)	3.5	3.0
Index of colour change (median)	3-4	3
Main reasons for change	colour, structure	colour, structure
Index after colour correction (median)	3.5	3.0
Index after colour correction (mean)	3.6	3.2
Damages by the treatment	none	

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



2.8 Classification of pile carpets

Test conditions

According to EN 1307:2008

Test results

Tested sample: 1

Surface structure		cut pile
Pile material		80% wool / 20% polyamide
Surface pile weight	[g/m ²]	1507
Surface pile thickness	[mm]	7.5
Surface pile density	[g/cm ³]	0.201
Number of tufts	[tufts/m ²]	166700
Fibre factor	[FF]	1.76
Tretrad index	[I _{TR}]	---
Drum test (Vettermann)	♦ Short term [5.000 turns]	3.5
	♦ Long term [22.000 turns]	3.0
Resistance to fraying		---
Wear index	[W _i]	9.56

Classification

Type of carpet	Type 2
Classification for wear	class 33
Classification for change in appearance	class 33
Overall use class	class 33
Luxury rating class	LC 5

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



2.9 Determination of the basic requirement of pile carpets

Test conditions

According to EN 1307:2008

Test results

Tested sample: 1

Surface structure	Cut pile
Pile material	80% wool / 20% 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		
♦ 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 depth ≤ 1/12 (in accordance with EN ISO 105-A01)

c) On multi fibre: 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.

For pile carpets with ≥ 80 % wool in the wear layer there are no basic requirements according EN 1307, therefore this floor covering fulfils the basic requirements "a priori"



2.10 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
0.6 kV	0.4 kV	0.3 kV	0.4 kV

Judgement

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



2.11 Summary of Results

Article	"highline 80/20 1900 wt"
Constructive characteristics Material of use surface Total mass per unit area Mass of pile per unit area Total thickness Thickness of pile above the substrate Surface pile density Number of tufts or loops	80% wool / 20% polyamide 3228 g/m ² 1507 g/m ² 10.1 mm 7.5 mm 0.201 g/cm ³ 166700 /m ²
Basic requirements Fibre bind - Cut-Pile Carpets Lisson Tretrad (EN 1963, method A) - relative mass loss [m _{rV}]	fulfilled *) 10.9 %
Tests for determination of use classification level Wear behaviour "Lisson-Tretrad" (EN 1963 method A) wear index [Wi] Change in appearance – "Vettermann" drum test (ISO 10 361) assesment after colour correction – 5000 cycles assesment after colour correction – 22000 Touren	9.6 Median Mean value Note 3.5 Note 3.6 Note 3.0 Note 3.2
Classification according EN 1307 Carpet category Basic requirements Classification of the wear performance Classification of the appearance retention Level of use classification Use intensity Luxury rating classification Luxury value	Type 2 fulfilled Class 33 Class 33 Class 33 commercial use 33 "heavy" LC5 LC5 "prestige"
Additional characteristics Antistatic (ISO 6356) Walking test (before cleaning)	0.4 kV

*) For pile carpets with ≥ 80 % wool in the wear layer there are no basic requirements. Therefore these floor coverings fulfill the basic requirements "a priori".



3 Remarks

Validity

There are no regulations concerning validity in the appropriate single test standards. Regardless of any specified validity, this report stays valid at the most, as long as the product will be produced unchanged; this is the responsibility of the manufacturer. Possible national or international restrictions concerning the validity 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

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