Report 62321
Test Report

Applicant

HAMMER TAEPPER A/S
Industrivej 17 - 19
7400 Herning
DÄNEMARK

Reference

Claus Orskov

Application

Testing and classification of use area according to EN 1307.

Test Material

"Colortec/Graphic 1100 g with lam. tex. backing"

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: 8

Original Issue / Vienna 2010-03-02 / Sp/AM/KK21001076

Authorised for Institute
DI (FH) Angelika Hönecke

Technology Build and Live
Ing. Hannes Vittek ☎ 18 / vittek@oeti.at

Contents

1 Order 2
1.1 Chronology 2
1.2 Samples 2
2 Findings / Tests performed 3
2.1 Description of specimen 3
2.2 Determination of thickness and thickness of wear layer 3
2.3 Determination of mass per unit and pile mass per unit area 4
2.4 Calculation of surface pile density and pile fibre volume ratio 4
2.5 Determination of number of tufts or loops 4
2.6 Assessment of static electrical propensity – walking test 5
2.7 Determination of changes in appearance – Drum Test 5
2.8 Determination of the basic requirement of pile carpets 6
2.9 Classification of pile carpets 7
3 Remarks 8

1 Order

1.1 Chronology

Date	*Received*	*Order*
2009-11-09	2009-11-18	Testing and classification of use area according to EN 1307.

1.2 Samples

No.	*Received*	*Sample Identification*	*Sample Material*
1	2009-11-19 (1)	"Colortec/Graphic 1100 g with lam. tex. backing"	textile floor covering, approx. 400 cm x 150 cm
2	2010-01-20 (1)	"Colortec/Graphic 1100 g with lam. tex. backing" (retesting of sample 1)	textile floor covering, approx. 2 m x 1 m

(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:	velours
Coloration of face side:	multicoloured patterned
Type of backing:	laminated textile backing
Type of fibres at face side *):	80% wool 20% polyamide (according to the specification by the applicant)

According to EN 1307, this is a cut pile carpet

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

2.2 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 methode: Sharp pointed knife
Number of samples: 4

Test results

Tested sample: 1

	total thickness	thickness of wear layer
Mean value	**9,4 mm**	**6,4 mm**
Coefficient of variation	1,2 %	1,0 %
Confidence interval (P = 95 %) absolute width	± 0,2 mm	± 0,1 mm

2.3 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 apparature: Sharp pointed knife
Number of samples: 4

Test results

Tested sample: 1

	mass per unit area	pile mass per unit area
Mean value	**1679 g/m²**	**713 g/m²**
Coefficient of variation	1,0 %	2,3 %
Confidence interval (P = 95 %) absolute width	± 27 g/m²	± 26 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.

2.4 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/cm³
Mass of pile per unit area	713 g/m²
Thickness of above the substrate pile	6,4 mm

Test results

Tested sample: 1

Surface pile density	0,111 g/cm³
Relative surface pile density	8,7 %

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:	37,6
	in cross direction:	27,7
Number of tufts or loops per dm²:		1042
Number of tufts or loops per m²:		104200

2.6 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: 2

Supplied condition			
Measurement 1	Measurement 2	Measurement 3	**Mean value**
-2,6 kV	-1,6 kV	-1,3 kV	**-1,8 kV**

Judgement

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

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	2,0
Index of colour change (median)	3-4	2-3
Main reasons for change	colour & structure	structure
Index after colour correction (median)	**3,5**	**2,5**
Index after colour correction (mean)	**3,3**	**2,3**
Demages by the treatment	none	

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

2.8 Determination of the basic requirement of pile carpets

Test conditions

According to EN 1307:2008

Test results

Tested sample: 1

Surface structure	cut pile carpet
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		
• Loop pile carpets	Fuzzing below level of reference photographs	--
• 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 fibe: 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 fulfill the basic requirements "a priori"

2.9 Classification of pile carpets

Test conditions

According to EN 1307:2008

Test results

Tested sample: Colortec/Graphic 1100 g with lam. tex. backing

Surface structure			cut pile carpet
Pile material			80% wool, 20% polyamide
Surface pile weight		[g/m²]	713
Surface pile thickness		[mm]	6,4
Surface pile density		[g/cm³]	0,111
Number of tufts		[tufts/m²]	104200
Fibre factor		[FF]	1,76
Tretrad index		[I_{TR}]	--
Drum test (Vettermann)	• Short term	[5.000 turns]	3,5
	• Long term	[22.000 turns]	2,5
Resistance to fraying			--
Wear index		[W_i]	2,5
Luxury rating factor		[C_F]	32,2

Classification

Type of carpet	Type 2
Classification for wear	class 23/32
Classification for change in appearance	class 23/32

Overall use class	**class 23/32**
Luxury rating class	**LC 3**

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 1307:2005	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

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

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 for several directives with the registration number 0534 (see http://ec.europa.eu/enterprise/newapproach/nando/). The accreditation by the Federal Ministry of Economy, Family and Youth as testing laboratory was repeated under reference 92.714/0560-I/12/2009 (Individual accredited test procedures are marked with the federal laboratory logo), the accreditation for testing and inspection of construction products was given by the OIB (Austrian Institute of Construction Engeineering). Details and other accreditations are given on request and can be found on www.oeti.at.

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.

Copyright und Usage Notes

End of Report