



## Report 63436

### Test Report

#### Applicant

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#### Reference

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#### Application

Testing and classification of use area according to EN 1307.

#### Test Material

"Colortec/Graphic 1800 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

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## 1 Order

### 1.1 Chronology

<i>Date</i>	<i>Received</i>	<i>Order</i>
2010-04-21	2010-04-26	Testing and classification of use area according to EN 1307.

### 1.2 Samples

<i>No.</i>	<i>Received</i>	<i>Sample Identification</i>	<i>Sample Material</i>
1	2010-04-23 <sup>(1)</sup>	"Colortec/Graphic 1800 g with lam. tex. backing"	textile floor covering, approx. 2,5 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:	cut-pile
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)

\*) 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
<b>Mean value</b>	<b>2173 g/m<sup>2</sup></b>	<b>992 g/m<sup>2</sup></b>
Coefficient of variation	2.2 %	3.6 %
Confidence interval (P = 95 %) absolute width	± 75 g/m <sup>2</sup>	± 57 g/m <sup>2</sup>

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
<b>Mean value</b>	<b>9.8 mm</b>	<b>6.5 mm</b>
Coeffizient of variation	1.9 %	3.0 %
Confidence interval (P = 95 %) absolute width	± 0.3 mm	± 0.3 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 <sup>3</sup>
Mass of pile per unit area	992 g/m <sup>2</sup>
Thickness of above the substrate pile	6.5 mm

### Test results

Tested sample: 1

Surface pile density	0.153 g/cm <sup>3</sup>
Relative surface pile density	11.9 %

## 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:	52.3
	in cross direction:	27.5
Number of tufts or loops per dm <sup>2</sup> :		1438
Number of tufts or loops per m <sup>2</sup> :		143800



## 2.6 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
<b>Colour fastness to <sup>a)</sup></b>			
♦ Light		≥ 5 (pastel shade <sup>b)</sup> ≥ 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 <sup>c)</sup>			
- - all carpets		≥ 2-3	
<b>Fibre bind for all carpets &lt; 80 % Wool</b>			
♦ Loop pile carpets		Fuzzing below level of reference photographs	--
♦ Cut pile carpets		Loss of mass ≤ 25 %	--
<b>Colour change <sup>d)</sup></b>			
♦ Due to spilled water		≥ 4	Conformity to be declared by the manufacturer for each production run
♦ Due to soiling subsequent to spilled water		≥ 3	

<sup>a)</sup> Conformity to be declared by the manufacturer for each colour

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

<sup>c)</sup> On multi fibre: worst result

<sup>d)</sup> 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"**



## 2.7 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)	4.0	3.5
Index of colour change (median)	colour	colour + structure
Main reasons for change	4	3-4
<b>Index after colour correction (median)</b>	<b>4.0</b>	<b>3.5</b>
<b>Index after colour correction (mean)</b>	<b>3.8</b>	<b>3.3</b>
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 carpet
Pile material		80% wool / 20% polyamide
Surface pile weight	[g/m <sup>2</sup> ]	992
Surface pile thickness	[mm]	6.5
Surface pile density	[g/cm <sup>3</sup> ]	0.153
Number of tufts	[tufts/m <sup>2</sup> ]	143800
Fibre factor	[FF]	1.76
Tretrad index	[I <sub>TR</sub> ]	--
Drum test (Vettermann)	♦ Short term [5.000 turns]	4.0
	♦ Long term [22.000 turns]	3.5
Wear index	[W <sub>i</sub> ]	4.8
Luxury rating factor	[C <sub>F</sub> ]	52.2



### Classification

Type of carpet	Type 2
Classification for wear	class 33
Classification for change in appearance	class 33
<b>Overall use class</b>	<b>class 33</b>
<b>Luxury rating class</b>	<b>LC 4</b>

#### 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 fill 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 Summary of Results

<b>Article</b>	<b>"Colortec/Graphic 1800 g with lam.tex.Backing"</b>	
<b>Constructive characteristics</b> material of use surface(by the applicant) 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 2173 g/m <sup>2</sup> 992 g/m <sup>2</sup> 9.8 mm 6.5 mm 0.153 g/cm <sup>3</sup> 143800 /m <sup>2</sup>	
<b>Basic requirements</b>	<b>fulfilled *)</b>	
<b>Tests for determination of use classification level</b> <b>Wear behaviour "Lisson-Tretrad" (EN 1963 method A)</b> wear index [Wi] . <b>Change in appearance – "Vettermann" drum test (ISO 10 361)</b> assesment after colour correction – 5000 cycles assesment after colour correction – 22000 Touren	4.8	Median   Mean value Note 4.0   Note 3.8 Note 3.5   Note 3.3
<b>Classification according EN 1307</b> Carpet category Basic requirements Classification of the wear performance Classification of the appearance retention <b>Level of use classification</b> Use intensity <b>Luxury rating classification</b> Luxury value	Type 2 fulfilled Class 33 Class 33 <b>Class 33</b> commercial use 33 "heavy" <b>LC4</b> LC4 "luxurious"	

\*) For pile carpets with  $\geq 80\%$  wool in the wear layer there are no basic requirements according EN 1307, therefore this floor covering fulfill the basic requirements "a priori"





### 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 92.714/0560-1/12/2009 (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 Engineering). Details and other accreditations are given on request and can be found on [www.oeti.at](http://www.oeti.at).

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