



Report 61050 Test Report

Applicant

KLEEN-TEX INDUSTRIES GMBH
Münchner Straße 21
6330 Kufstein
ÖSTERREICH

Reference

Mr. Paul Roller

Application

Assessment of static electrical propensity and of the vertical resistance.

Test Material

"Super Mat", "Iron Horse", "Iron Horse XL", "Jet-Print", "Pure Rubber-Mat"

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 2009-08-03/ mp/KK20001155
Translation 2009-08-05

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	Assessment of static electrical propensity – walking test	4
2.3	Assessment of static electrical propensity – walking test	5
2.4	Determination of electrical resistances	5
2.5	Determination of vertical resistance of resilient floor coverings	7
2.6	Determination of horizontal resistance of resilient floor coverings	7
3	Remarks	8

1 Order

1.1 Chronology

<i>Date</i>	<i>Received</i>	<i>Order</i>
2009-05-27	2009-05-28	Assessment of static electrical propensity and of the vertical resistance.

1.2 Samples

<i>No.</i>	<i>Received</i>	<i>Sample Identification</i>	<i>Sample Material</i>
1	2009-05-28 (1)	"SUPER MAT"	mat, 1 piece
2	2009-05-28 (1)	"IRON HORSE"	mat, 1 piece
3	2009-05-28 (1)	"IRON HORSE XL"	mat, 1 piece
4	2009-05-28 (1)	"JET-PRINT"	mat, 1 piece
5	2009-05-28 (1)	"PURE RUBBER-MAT"	mat, 1 piece

(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:	adjusted carpet
Manufacturing procedure:	tufted
Structure of face side:	cut pile
Coloration of face side:	multicoloured unpatterned
Type of backing:	coated backing
Type of fibres at face side *):	Polyamide

Sample tested: 2

Dimensions:	adjusted carpet
Manufacturing procedure:	tufted
Structure of face side:	cut pile
Coloration of face side:	multicoloured unpatterned
Type of backing:	coated backing
Type of fibres at face side *):	Polyamide

Sample tested: 3

Dimensions:	adjusted carpet
Manufacturing procedure:	tufted
Structure of face side:	cut pile
Coloration of face side:	multicoloured unpatterned
Type of backing:	coated backing with non-woven coated
Type of fibres at face side *):	Polyamide

Sample tested: 4

Dimensions:	adjusted carpet
Manufacturing procedure:	tufted
Structure of face side:	cut pile
Coloration of face side:	multicoloured unpatterned
Type of backing:	coated backing
Type of fibres at face side *):	Polyamide

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



2.2 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
- 5,7 kV	- 4,1 kV	- 4,3 kV	- 4,7 kV

Judgement

The tested sample does not fulfill the requirements of EN 1307:2005 and must be classified as **non antistatic** according EN 14041:2004.

Tested sample: 2

Supplied condition			
Measurement 1	Measurement 2	Measurement 3	Mean value
- 1,6 kV	- 1,4 kV	- 1,4 kV	- 1,5 kV

Judgement

The tested sample fulfills the requirements of EN 1307:2005 and must be classified as **antistatic** according EN 14041:2004.

Tested sample: 3

Supplied condition			
Measurement 1	Measurement 2	Measurement 3	Mean value
- 1,5 kV	- 1,6 kV	- 1,2 kV	- 1,4 kV

Judgement

The tested sample fulfills the requirements of EN 1307:2005 and must be classified as **antistatic** according EN 14041:2004.

Tested sample: 4

Supplied condition			
Measurement 1	Measurement 2	Measurement 3	Mean value
- 0,8 kV	- 0,6 kV	- 0,7 kV	- 0,7 kV

Judgement

The tested sample fulfills the requirements of EN 1307:2005 and must be classified as **antistatic** according EN 14041:2004.



2.3 Assessment of static electrical propensity – walking test

Test conditions

According to EN 1815

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

Base plate: > 10⁹ Ω rubber mat on metal plate

Sole-material: rubber

Deviation from standard: The test was carried out only with rubber-soles, because the PVC-soles are internationally not available at this time.

Test results

Tested sample: 5

Body-Voltage [kV]			
Test 1	Test 2	Test 3	Mean value
-0,06	+0,09	-0,03	0,06

Classification

By walking over this floor covering no disturbing electric charges will occur, even not by disadvantageous room – climates.

This floor covering can be classified as antistatic.

2.4 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	4,0 x 10 ¹¹ Ω	2,0 x 10 ¹² Ω
	2	6,0 x 10 ¹¹ Ω	9,5 x 10 ¹¹ Ω
2	1	3,6 x 10 ¹¹ Ω	1,2 x 10 ¹² Ω
	2	4,4 x 10 ¹¹ Ω	7,0 x 10 ¹¹ Ω
3	1	4,6 x 10 ¹¹ Ω	1,0 x 10 ¹² Ω
	2	6,0 x 10 ¹¹ Ω	8,0 x 10 ¹¹ Ω
Geometric mean value		4,7 x 10¹¹ Ω	1,0 x 10¹² Ω



Tested sample: 2

Sample	Measurement	Vertical resistance	Horizontal resistance
1	1	$7,0 \times 10^{10} \Omega$	$1,2 \times 10^{11} \Omega$
	2	$5,0 \times 10^{10} \Omega$	$2,5 \times 10^{11} \Omega$
2	1	$5,8 \times 10^{10} \Omega$	$6,0 \times 10^{10} \Omega$
	2	$5,4 \times 10^{10} \Omega$	$1,0 \times 10^{11} \Omega$
3	1	$6,5 \times 10^{10} \Omega$	$6,5 \times 10^{10} \Omega$
	2	$6,0 \times 10^{10} \Omega$	$9,0 \times 10^{10} \Omega$
Geometric mean value		$5,9 \times 10^{10} \Omega$	$1,0 \times 10^{11} \Omega$

Tested sample: 3

Sample	Measurement	Vertical resistance	Horizontal resistance
1	1	$7,5 \times 10^{10} \Omega$	$9,0 \times 10^{10} \Omega$
	2	$7,0 \times 10^{10} \Omega$	$1,2 \times 10^{11} \Omega$
2	1	$6,0 \times 10^8 \Omega$	$8,5 \times 10^{10} \Omega$
	2	$7,0 \times 10^8 \Omega$	$1,1 \times 10^{11} \Omega$
3	1	$1,8 \times 10^9 \Omega$	$1,1 \times 10^{11} \Omega$
	2	$2,5 \times 10^{10} \Omega$	$1,5 \times 10^{11} \Omega$
Geometric mean value		$6,8 \times 10^9 \Omega$	$1,1 \times 10^{11} \Omega$

Tested sample: 4

Sample	Measurement	Vertical resistance	Horizontal resistance
1	1	$2,0 \times 10^{10} \Omega$	$5,4 \times 10^{11} \Omega$
	2	$1,4 \times 10^{10} \Omega$	$9,0 \times 10^{11} \Omega$
2	1	$1,8 \times 10^{10} \Omega$	$7,5 \times 10^{11} \Omega$
	2	$1,4 \times 10^{10} \Omega$	$9,0 \times 10^{11} \Omega$
3	1	$1,6 \times 10^{10} \Omega$	$3,6 \times 10^{11} \Omega$
	2	$1,2 \times 10^{10} \Omega$	$6,5 \times 10^{11} \Omega$
Geometric mean value		$1,5 \times 10^{10} \Omega$	$6,5 \times 10^{11} \Omega$



2.5 Determination of vertical resistance of resilient floor coverings

Test conditions

According: EN 1081, method A
Testing climate: 23 ± 2 °C, 50 ± 5 % relative humidity
Measuring voltage: 500 V

Test results

Tested sample: 5

	Vertical resistance R_1
Median	$1,4 \times 10^8$ Ohm
Maximum value	$1,5 \times 10^8$ Ohm
Minimum value	$1,0 \times 10^8$ Ohm

2.6 Determination of horizontal resistance of resilient floor coverings

Test conditions

According to: EN 1081, method C
Testing climate: 23 ± 2 °C, 50 ± 5 % rel. humidity
Measuring voltage: 500 V
Measuring distance: 100 mm
Deviation from standard: Tests were carried out on unlayered specimens, in combination with an isolating base plate.

Test results

Tested sample: 5

	Horizontal resistance R_3
measurement 1	$1,0 \times 10^9$ Ohm
measurement 2	$9,7 \times 10^8$ Ohm
measurement 3	$1,7 \times 10^9$ Ohm
median	$1,0 \times 10^9$ Ohm

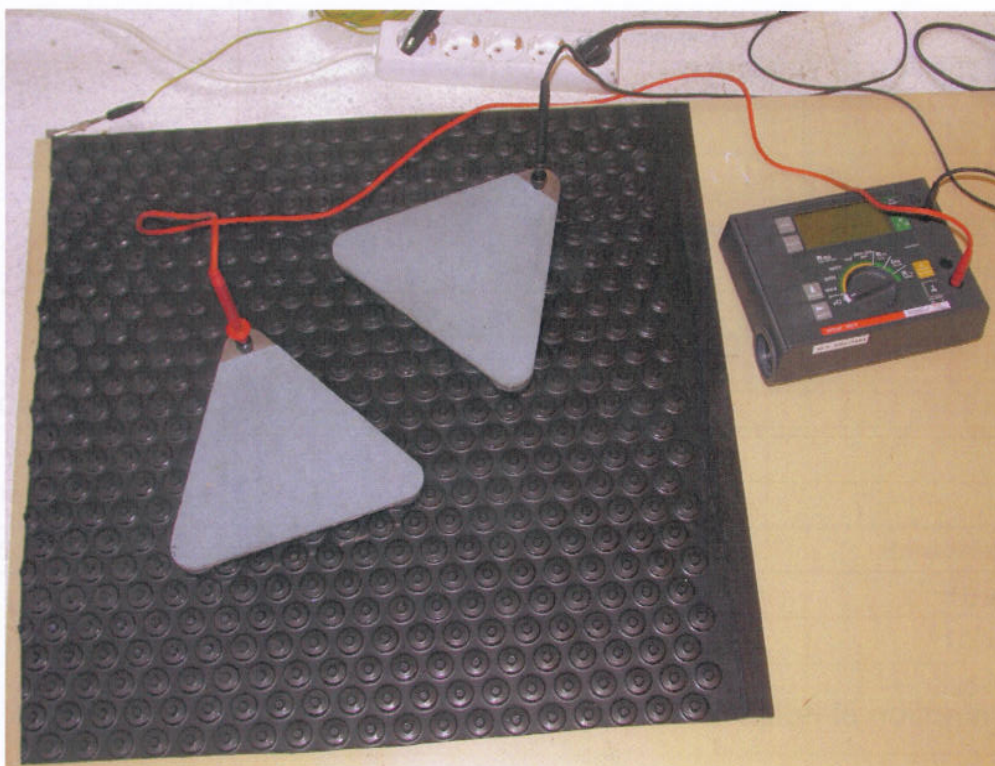


Photo 1: Determination of horizontal resistance of sample 5

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 Economics and Labour as testing laboratory was repeated under reference 92.714/0655-I/12/2008 (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.

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

It is pointed out, that any alterations, amendments or falsifications of reports not authorized by the issuer of the report will be prosecuted as civil and criminal offences; this especially to the appropriate requirements of ABGB, UrhG, UWG and criminal law and their respective international equivalents.

Reports are protected under international copyright laws. Written consent of the ÖTI is required for publications (also in excerpt) and reference to tests for public relation purposes. Reports may only be reproduced in full length.