

TEST REPORT no. 22 0010955 e

Client ERGOMAT A/S Snavevej 6-10 5471 Sonderso Dänemark	Date of order: 20.10.2014 Receipt of samples: 24.10.2014 Test period until: 17.11.2014
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Commission

Performance of material tests on carrel floor mats.

Description of samples

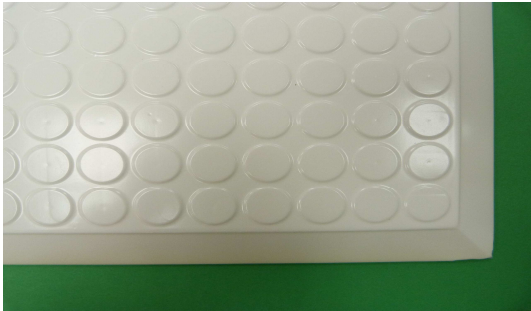
2 samples of carrel floor mats

Sample 1:

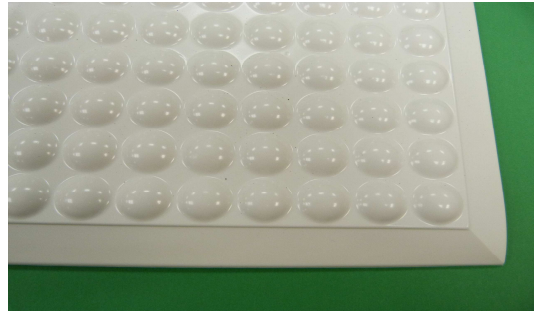
Designation: Infinity smooth
Material: Foamed
polyurethane
Dimensions: 60 x 90 cm
Colour: White

Sample 2:

Designation: Infinity bubble
Material: Foamed
polyurethane
Dimensions: 60 x 90 cm
Colour: White



Sketch 1: picture detail sample 1 in the as-delivered state



Sketch 2: picture detail sample 2 in the as-delivered state

The results of the tests refer exclusively to the samples named above.

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This Test report consists of 3 pages and 1 enclosure.

This document was originally written in German. In cases of doubt the German version shall prevail.

Sampling procedure

Test samples were provided by the client.

Underlying specification/test procedures

Unless specified differently tests were performed at standard reference laboratory conditions acc. to DIN ISO 23529 (23°C/50% rel. hum.) class 2.

- Abrasion

According to DIN ISO 4649:2014-03 „Rubber, vulcanized or thermoplastic - Determination of abrasion resistance using a rotating cylindrical drum device (ISO 4649:2010)“

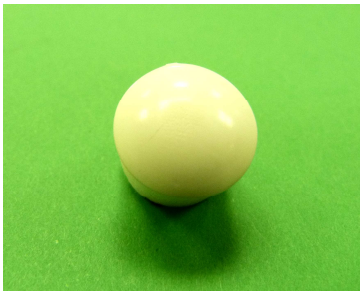
Testing equipment:	Abrasion test apparatus DIN ISO 4649
Test method:	Method A
Deviation from standard testing procedure:	Tests were conducted with a tracking force of $5\text{ N} \pm 0,1\text{ N}$ and using a 20 m run
Reference-elastomer:	BAM-E001, ISO 4649, Standard reference compound No.1, Nr. 3685-4, 2011
Density of reference-elastomer:	1,358 g/cm ³
Measurement equipment/ determination of density:	Mettler high accuracy scales H35AR/9, K-no. 1378
Method of specimen preparation :	Test pieces were drilled out by a hollow drill
Number of test pieces:	5 each

- Type of specimen



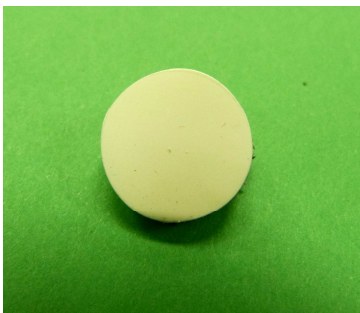
Test specimens for sample Infinity smooth were taken straight from the mat maintaining the original surface.

Sketch 3: prepared test specimen, sample 1
 Abrasion surface for testing



Sketch 4: drilled out section of sample 2 with spheric surface

Test specimen for sample Infinity bubble could not be taken straight from the mat. The test could not be conducted due to the spheric shape of the surface.



Sketch 5: prepared test specimen, sample 2
Abrasion surface for testing

Test specimen for sample Infinity bubble were taken from the sloping edge of the mat as agreed with the customer.

- Execution of tests

Tests were conducted with a tracking force of $5 \text{ N} \pm 0,1 \text{ N}$ and using a 20 m run. For some test specimens the test could not be accomplished due to the destruction of the dense surface. After the dense surface vanished the cellular foamed material got in contact with the abrasive sheet. The abrasive sheet then teared the specimen from the mount. For the examination these test specimens were not comprised.

Results

The results of the abrasion test on samples „Infinity smooth“ and „Infinity bubble“ show very low values for relative volume loss. Extremely high values were found for the abrasion resistance index due to the material structure and density. The results are given in enclosure 1.

Dortmund, 8th December 2014

By order

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Liratsch
Official in charge

Properties of carrel floor mats

Sample 1:
 Designation: Infinity smooth
 Material: Foamed polyurethane
 Dimensions: 60 x 90 cm
 Colour: White

Table 1:

Properties		Unit	Extrem values		Average
Abrasion	rel. volume loss	mm ³	1,8	3,2	2,6
	Abrasion resistance index	%	1000	1776	1251
Density of rubber tested		g/cm ³	0,390		

Sample 2:
 Designation: Infinity bubble
 Material: Foamed polyurethane
 Dimensions: 60 x 90 cm
 Colour: White

Table 2:

Properties		Unit	Extrem values		Average
Abrasion	rel. volume loss	mm ³	2,0	3,7	2,7
	Abrasion resistance index	%	803	1393	1112
Density of rubber tested			0,400		