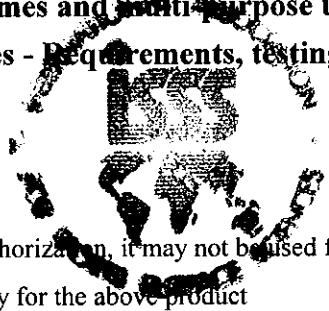


LABORATORY TESTS
INDOOR SPORT SURFACE
"ALSAGYM EN 9.2.1"
STOCKMEIER URETHANES FRANCE
SA/SNAD
REPORT RX06-751
January 23, 2007

Scope of application :

The tests are performed according to DIN 18032-2 (04/2001) :

Sport halls - Halls for gymnastics, games and multi-purpose use - Part 2: Floors for sporting activities - Requirements, testing.



This report contains 5 pages. Except with prior authorization, it may not be used for commercial purposes, unless it is reproduced in its entirety. The results are valid only for the above product

I - APPLICANT :

Company : STOCKMEIER URETHANES FRANCE SA/SNAD
Date of order : 2006/10/23
Date of sample reception : 2006/10/26

The tests were carried out in laboratory.

The tests conditions were 23 °C \pm 2 °C / 50 % \pm 10 %.

II - DESCRIPTION OF THE SURFACE :

Name of the product : ALSAGYM EN 9.2.1.

Description :

- Tapis caoutchouc aggloméré, ref : 6015 H (9mm)
- Bouche-pores : Stobielast[®] S 129.36 (0,60 \pm 0,15 kg/m²)
- Résine autolissante : Stobielast[®] S 147 (2,60 \pm 0,2 kg/m²) (2mm)
- Finition : Stobielast[®] S 165 (0,16 \pm 0,03 kg/m²).

Identification :	Total thickness =	11 mm
	Mass per unit area =	9 Kg/m ²
	Mass per unit volume =	817 Kg/m ³ .
	Hardness =	75 shore A
	Colour =	yellow

III – DESCRIPTION OF THE TESTS :

a – Athlete / surface interaction

a1 – sliding properties – friction

a2 – force reduction – shock absorption

a3 - vertical deformation

a4 – area deflexion

a5 – thickness factor

b – Technical properties

b1 – ball rebound

b2 – behaviour under a rolling load

b3 – impact resistance (not mentionned in this report)

b4 – residual impression

IV – RESULTS :

a 1 – SLIDING PROPERTIES :

The device used is the “sliding apparatus Stuttgart”

Result
0,43 - 0,46

a 2 – FORCE REDUCTION :

The apparatus used is Artificial Athlete.

Filtering system = low pass 120 Hz, 2 poles

Reference Force on concrete = 6,60 kN ± 0,25 kN

a 3 – VERTICAL DEFORMATION :

The apparatus used is Artificial Athlete.

a 4 – AREA DEFLEXION (W_{100}) :

The apparatus used is Artificial Athlete.

Spot test	Shock Absorption (%)	Vertical Deformation (mm)	Area deflexion (%)
Average	27	1.1	0

a 3 – THICKNESS FACTOR :

Ratio of the thickness of an elastic layer and its vertical deformation.

Result	10
--------	----

b 1 –BALL REBOUND :

The apparatus used is acoustic method

Reference basket ball rebound on concrete = 135 cm

Spot test	1	2	3	4	5	Average
Ball Rebound (%)	96	98	99	98	99	98

b 2 – BEHAVIOUR UNDER A ROLLING LOAD :

Under rolling load 1500N

Description of damage : no damage

b 4 –RESIDUAL IMPRESSION :

Behaviour of the sports floor after a stress by punctual loads of 0.3 kN during 5H.

Result	0.08
--------	------

V- CONCLUSION :

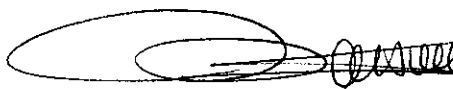


Tests	Requirements		Results
	Category 1	Category 2	
Force reduction (%)	> 51 %	> 45 %	27 %
Vertical deformation (mm)	< 3.5 mm	< 3.0 mm	1.1 mm
Thickness factor	> 4.0		10
Area deflexion W ₁₀₀ (%)	0 %		0 %
Rolling load	No damage		No damage
Residual impression	< 0.5 mm		0.08
Ball rebound (%)	≥ 90 %		98 %
Sliding properties	0.4 < result < 0.6		0,43 - 0,46

The results of the tests which are mentioned in part V, are in accordance with the DIN 18032-2.

Le Mans, January 23, 2007

Dominique Boisnard

Julien Ogier

Technoparc Circuit des 24 Heures du Mans
Chemin des Beaufort 72100 LE MANS
Synthetic Surfaces Department
Tél. 02 43 47 08 40 - Fax 02 43 47 08 28

Executive Manager