Materials Testing Institute
University of Stuttgart
P.O. Box 80 11 40 · 70511 Stuttgart · Germany

Materials Testing Institute
University of Stuttgart

DAkkS
Deutsche
Akkreditierungsstelle
D-PL-11027-04-00

Test Report

Determination of sports surface properties

Report-No.:	903 4594-04
Client:	Dr. Schutz GmbH Steinbrinksweg 30 D-31840 Hessisch Oldendorf
Order-No. (Client):	2154153
Order-No. (MPA):	**903 4594 000 /Scz**
Test Item:	**PVC surface treated with „PU NEO satin“**
Specification Applied:	[1] DIN EN 14904:2006-06 Surfaces for sports areas –Indoor surfaces for multi-sports use – Specification
Date of Receipt of Test Item	23.11.2017
Date of Test:	starting 23.11.2017
Date of Report:	04.12.2017
Page 1 of	3 text pages
Enclosures :	2
Supplements:	-
Total Number of Pages:	5
Number of Reports:	1

1 Purpose of Investigation

You commissioned us with testing of technical properties of a surface for sports areas according to DIN EN 14904 [1]. Therefor we received two PVC surface samples (size approx. 20 cm x 70 cm) labeled as follows:

Sample 1: **„ PU NEO satin “**

The treatment of the PVC sample with the surface sealant **„ PU NEO satin “** was done according to manufacturers' instructions (product specification sheet dated 20.09.2017) in two layers with 50 ml/m² for each layer.

2 Testing procedure

The tests were carried out according to the procedures mentioned in DIN EN 14904 [1]. The test marked with ◙ is an accredited test according to DIN EN ISO/IEC 17025, see DAkkS-certificate D-PL-11027-04-07).

The following properties according to DIN EN 14904 [1] were determined:

Linear friction, specular reflectance, specular gloss, resistance to wear.

3 Results of Investigation

In the following table the test results obtained are tabulated and compared to the requirements of DIN EN 14904 [1].

The single test results can be found in tables 2-5, enclosures 1-2.

Table 1: Summary of the test results according to DIN EN 14904 [1], sample 1 "PU NEO satin"

Test acc. to EN xx described in DIN EN 14904 [1]	Test results		Requirements acc. to DIN EN 14904 [1]
Linear friction (EN 13036-4:2011)	82	max. deviation -2 / +3	80 – 110 (max deviation of single value +/- 4 units of mean value)
Specular reflectance (EN 13745:2004)	19,4 %		-[1)]
Specular gloss (EN ISO 2813:1999)	35,5 %		≤ 45 % at 85° for painted sport floor coverings
Resistance to wear (EN ISO 5470-1:1999)	248,2 mg		≤ 1000 mg (H18 wheel; 1000 cycles; load 1000g)

-[1)] no requirements acc. to DIN EN 14904 [1] – result has to be reported

Prepared by

Norbert Schulz
Testing Engineer

UNIVERSITÄT STUTTGART
MATERIALPRÜFUNGSANSTALT (12)

Approved and released by

Dr.-Ing. Michael Stegmaier
Section leader

Table 2: test results of linear friction acc. to DIN EN 14904 [1]

Test spot	Linear friction	
	along	across
1	81	84
2	80	83
3	81	81
4	83	80
5	85	82
along/across Ø	82	82
Total Ø	**82**	

Table 3: test results of specular reflectance acc. to DIN EN 14904 [1]

Test spot No.	Specular reflectance [%]	
	along	across
1	18,85	19,36
2	19,28	20,24
3	19,27	19,19
Ø	19,1	19,6
Total Ø	**19,4**	

Table 4: test results of specular gloss acc. to DIN EN 14904 [1]

Test spot No.	Specular gloss [%]	
	along	across
1	35,3	36,5
2	33,9	36,1
3	35,5	36,7
4	35,7	36,1
5	35,5	36,2
6	34,1	34,5
Ø	35,0	36,0
Total Ø	**35,5**	

Table 5: test results of resistance to wear acc. to DIN EN 14904 [1]

Sample No.	Loss in mass [mg]
1	208,8
2	295,5
3	256,5
4	231,2
5	259,4
6	237,6
Ø	**248,2**