



## **TEST REPORT**

### **NF EN 14877 (10/2013) Standard**

**Synthetic surfaces for outdoor sports areas - Specification for tennis facilities**

# **LAYKOLD MASTERS 8**

## **POLYTAN GMBH**



Accreditation N° 1-2113

Scope of accreditation available on [www.cofrac.fr](http://www.cofrac.fr)

Only certain services from this report are covered by the accreditation.

They are identified by the symbol \*

### **LABORATORY TEST REPORT N° R160321-D1**

**LE MANS, le 22/08/2016**

This report is composed of 5 pages and 3 annexes.

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The results are valid only for the tested surface. Complete results available on request.

**LABOSPORT S.A.S.**

Technoparc du Circuit des 24 Heures • Chemin aux Bœufs • 72100 Le Mans, France  
[contact@labosport.com](mailto:contact@labosport.com)

Tél.: +33 (0)2 43 47 08 40 • Fax: +33 (0)2 43 47 08 28

[www.labosport.com](http://www.labosport.com)

## 1 ■ CLIENT DETAILS

Company : POLYTAN GmbH  
Gewerbering 3  
Postfach 40  
86 666 BURGHEIM  
DEUTSCHLAND

Date of order: 24/03/2016  
Date of samples reception: 03/03/2016  
Samples reference: 019006 (Tile)

## 2 ■ TEST PROGRAM

**LABOSPORT** France has been commissioned by **POLYTAN GmbH** to carry out laboratory tests on the multi-sports indoor sport floor **LAYKOLD MASTERS 8**.

Tests methods and technical requirements criteria considered in this report refer to the standard:

- NF EN 14877: Synthetic surfaces for outdoor sports areas - Specification for tennis facilities

This report is an English translation of the French report **R160321-C1**. Only the French version prevails.

Dimensions of the tested samples conform to the testing standards.

Samples were tested in accordance with the client's instructions (installation conditions, laying type).

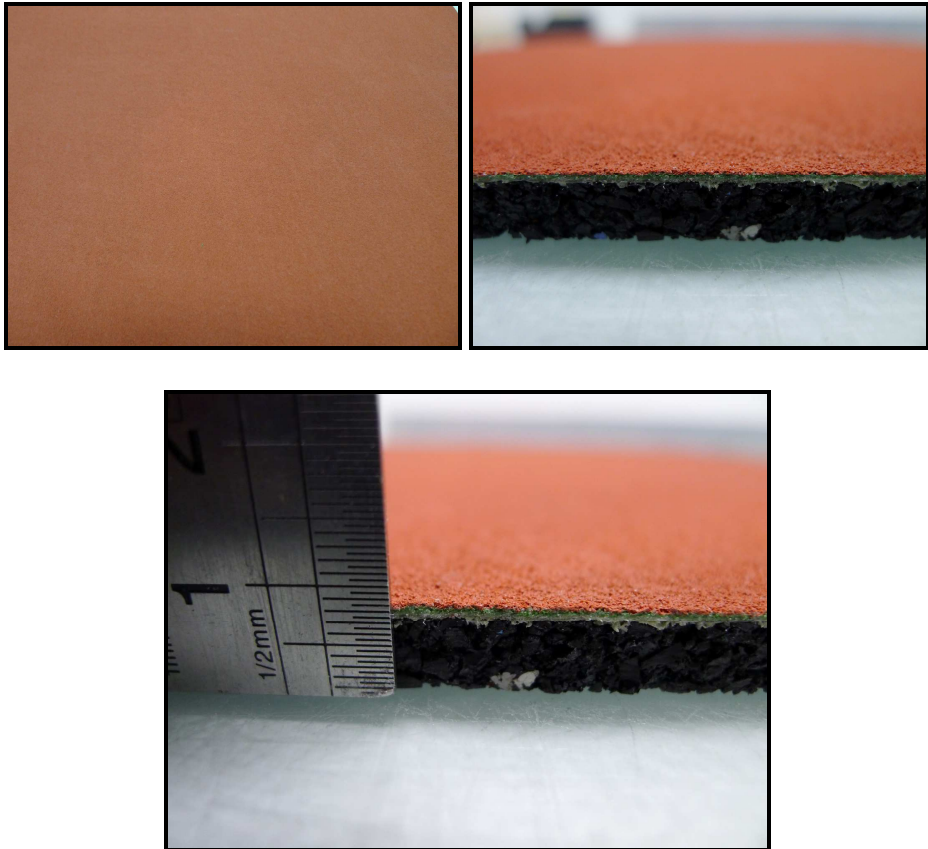
Tests are realized in laboratory where temperature and air humidity are controlled:

<b>Temperature (°C)</b>	23°C ± 2°C
<b>Air humidity (%)</b>	50 % ± 10%

Technical references (manufacturer declaration) considered in this report have been supplied by **POLYTAN GmbH** and refer to the following document:

- Technical Data Sheet of **LAYKOLD MASTERS 8** from 23/03/2016 (cf. annex 2 to 4)

**3 ■ SAMPLES (client declaration)**

<b>Tennis</b>		<b>Internal Reference: 019006</b>	<b>Receipt date: 03/03/2016</b>
<b>Product name</b>	<b>LAYKOLD MASTERS 8</b>		
<b>Product type</b>	Synthetic resin coated on a shockpad		
<b>Application</b>	Tennis facilities		
<b>Pictures</b>			
<b>Description</b>	<p>System with PU/Rubber/Acrylic materials filled on a shockpad</p> <p>System composed of the following layers as:</p> <ol style="list-style-type: none"> <li>1- Laykold Masters adhesive</li> <li>2- Laykold Masters 8 shockpad</li> <li>3- Laykold Masters Bond Kote</li> <li>4- Laykold Masters filler</li> <li>5- Laykold Masters Top coat (rouge)</li> </ol>		

**Product identification**

	<b>Manufacturer declaration</b>	<b>Labosport results</b>	<b>Units</b>
<b>Total thickness</b>	8.0	8.3	mm
<b>Mass per unit area</b>	-	6.6	kg/m <sup>2</sup>
<b>Density</b>	-	799	kg/m <sup>3</sup>
<b>Colour</b>	Different colours	Red	-

#### 4 ■ TEST RESULTS

Properties	Methods	Units	Conditions	Results	Requirements	Opinion
Friction	EN 13036-4	-	Dry, 23°C	*99	80 - 110	Pass
			Wet, 23°C	*65	55 - 110	Pass
Shock absorption	EN 14808	%	23°C	*23	≥11% Classification	SA 20 - 30
			After Ageing <sup>(1)</sup>	*20		
Vertical deformation	EN 14809	mm	23°C	*0.8	≤ 3.0	Pass
Vertical rebound	EN 12235	%	23°C	*103	≥ 85	Pass
Angular rebound	EN 13865	-	23°C	30	Classification	Medium slow (30-34)
Absolute thickness	EN 1969 (A)	mm	New, 23°C	8.3	≥ 7	Pass
Permeability	EN 12616	mm/h	New, 23°C	No applicable	≥ 150	No applicable
Resistance to wear	EN ISO 5470-1	g	New, 23°C	0.51	≤ 4.0 between 500 and 1500 cycles	Pass
			After UVA ageing <sup>(2)</sup>	0.42		Pass
Tensile strength	EN 12230	MPa	New, 23°C	1.81	≥ 0.4	Pass
			After Ageing <sup>(1)</sup>	1.77		Pass
Elongation	EN 12230	%	New, 23°C	53	≥ 40	Pass
			After Ageing <sup>(1)</sup>	63		Pass
Color change	EN ISO 20105-A02	-	After UVA ageing <sup>(2)</sup>	4-5	≥ 3	Pass

##### (1) After ageing: Hot air and hot water ageing

The hot air and hot water ageing is performed according to EN 13817 and EN 13744. After surface exposure, the following properties are measured again to check any potential change:

- ❖ Shock absorption
- ❖ Tensile strength
- ❖ Elongation

##### (2) UVA ageing

The UVA artificial ageing is performed according to EN 14836 standard. After surface exposure, the following properties are measured again to check any potential change:

- ❖ Resistance to wear
- ❖ Color change

## 5 ■ CONCLUSION

Results of the tests mentioned below, covered by the COFRAC accreditation, comply with the requirements of the EN 14877 standard (10/2013 - Synthetic surfaces for outdoor sports areas – Specification for tennis and multi-sports facilities) for tests mentioned below:

- Friction
- Shock absorption
- Vertical deformation
- Vertical ball rebound

Results of the tests mentioned below, not covered by the COFRAC accreditation, comply with the requirements of the EN 14877 standard (10/2013 - Synthetic surfaces for outdoor sports areas – Specification for tennis and multi-sports facilities) for tests mentioned below:

- Absolute thickness
- Resistance to wear
- Tensile strength
- Elongation
- Color change

The results of shock absorption found on the tested sample indicate that the surface is classified as **SA 20-30**.

The results of angular rebound found on the tested sample indicate that the speed of the surface is classified as **Medium Slow**.

The results uncertainty has not been taken into account to declare or not the product conformity to the requirements.

Le Mans, le 22/08/2016



**APPROVAL**  
Benoit Bossuet  
Synthetic Surfaces Technical Manager



**WRITER**  
Steeve Bazeille  
Laboratory D<sup>pt</sup> Manager

## ANNEX 1 : ACCREDITATIONS FOR LABORATORY TESTS

### Scope

The COFRAC accreditation delivered to LABOSPORT certifies that this laboratory is competent to undertake laboratory tests according to the following standards:

Standard	Title
NF EN 12235	Surfaces for sports areas - Determination of vertical ball behaviour
NF EN 13036-4	Road and airfield surface characteristics - Test methods - Part 4: Method for measurement of slip/skid resistance of a surface: The pendulum test
NF EN 14808	Surfaces for sports areas - Determination of shock absorption
NF EN 14809	Surfaces for sports areas - Determination of vertical deformation

### Description of COFRAC tests

Standard	Tests Equipment*	Principles
NF EN 12235	Acquisition system A05-00-00	A basketball ball is dropped vertically on the tested sample. The vertical ball rebound height is measured and the % relative to the drop height is calculated.
NF EN 13036-4	Device A02-00-00	The system is composed of a standard rubber "patin 57" slider assembled with a spring and fixed to the pendulum extremity. Dropping the pendulum arm from the horizontal position, the energy loss caused by the slider friction onto the surface is measured on a calibrated scale giving the oscillation arm amplitude decrease.
NF EN 14808	Acquisition system A04-00-00	A mass is allowed to fall onto a spring that rests, via a load cell and test foot on the test specimen, and the maximum force applied is recorded. The percentage reduction in this force relative to the maximum force measured on a concrete surface is reported as the 'Force Reduction'.
NF EN 14809	Acquisition system A04-00-00	A mass is allowed to fall onto a spring that rests, via a load cell and test foot, on the test specimen and the maximum and standard deformation of the surface is determined.

\* = The delivery of a test report carrying "COFRAC-TEST" logo guarantees the connection of the equipment used during the test to the International Unit System (S.I).

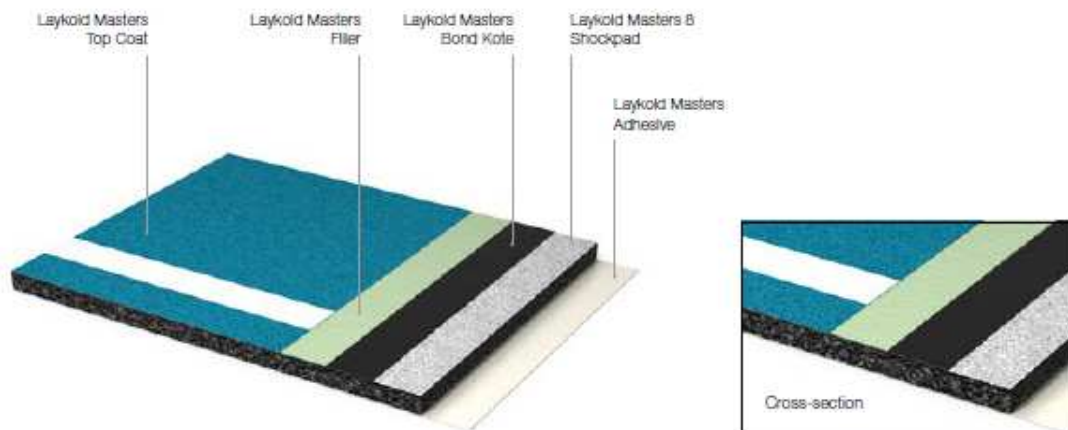


**TECHNICAL DATA SHEET**

CUSHIONED SYSTEM PREMIUM

**Laykold Masters 8**

★★★★★



**TENNIS • MULTIPURPOSE / SCHOOL SPORTS**

PRODUCT DESCRIPTION	Laykold Advantage Masters 8 is an all-weather tennis court surfacing system made of polyurethane, rubber and acrylic. The elastic layer provides enhanced player comfort. In addition, the acrylic topcoat ensures a consistent ball bounce, reliable footing and a high level of wear protection – good conditions for performance and competitive sport.
AREAS OF USE	<ul style="list-style-type: none"> <li>• Tennis</li> <li>• Multifunctional sports surfaces</li> </ul>
PROPERTIES	<ul style="list-style-type: none"> <li>• Factory-textured topcoat</li> <li>• Enhanced player comfort due to elastic layer</li> <li>• Waterproof</li> </ul>
SYSTEM STRUCTURE	<ul style="list-style-type: none"> <li>• Adhesive, two-component polyurethane adhesive</li> <li>• Base layer, polyurethane bonded rubber granules, black – prefabricated with laminated fibre-glass surface</li> <li>• Sealer, single component latex emulsion</li> <li>• Performance layer, sand-filled acrylic latex emulsion</li> <li>• Upper layer, sand-filled acrylic emulsion</li> </ul>



CUSHIONED SYSTEM PREMIUM

## Laykold Masters 8

★★★★★

PRODUCT VARIANTS	<ul style="list-style-type: none"> <li>• Classified Court Pace Category 1 – Slow - Attainable by adding additional sand to the upper layer</li> <li>• Classified Court Pace Category 5 – Fast - Attainable by adding an additional, sand-free upper layer</li> </ul>
ITF CLASSIFICATION	• Classified Court Pace Category 3 - Medium
TEST CERTIFICATES	<ul style="list-style-type: none"> <li>• ITF</li> <li>• EN 14877</li> </ul>

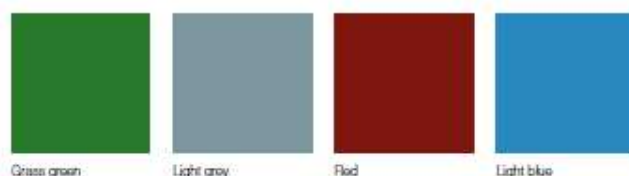
### TECHNICAL SYSTEM PROPERTIES

REQUIREMENT	STANDARD	RESULT (AVERAGE) <sup>1</sup>
Thickness	EN 1969	8 mm
Shock absorption	EN 14808	23 %
Vertical deformation	EN 14809	0,8 mm
Vertical ball bounce behaviour	EN 12235	103 %
Angled ball bounce behaviour	EN 13865	30 (medium slow)
Friction	EN 13036-4	99 (dry) / 65 (wet)
Abrasion resistance	EN ISO 5470-1	0,52 g
Tensile strength	EN 12230	1,81 Mpa / 53 %

<sup>1</sup> Data taken from test report. Construction-specific tolerances possible.

### COLOURS

8 standard colours. Special colours available upon request.



This technical data sheet has been carefully compiled to the best of our knowledge. We assume no liability for printing errors, errors relating to standards or mistakes. Technical amendments may also be made as a result of continuous further development as well as changes to standards and public law documents. The content of this technical data sheet therefore cannot be considered instructions for use or a legally binding basis.

29.03.2016 2