

## Laboratory Report AP- 0501/2

### *Junckers Sylvasport Premium Beech*

### Sports Halls Floor

#### Summary:

Selected tests from *BS EN 14904:2006, the European Standard for "Surfaces for sports areas — Indoor surfaces for multi-sports use* have been carried out on *Junckers Sylvasport Premium Beech*, a sports halls floor surfacing supplied by VA Hutchison Flooring Ltd.

The methods of tests employed are described and the results obtained are given.

#### Reported by:



Susana Ruiz de Castroviejo  
Operations Manager

#### Date of this report:

14<sup>th</sup> June 2019

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## 1 INTRODUCTION

At the instruction of Pete Scott-Darling of VA Hutchison Flooring Ltd selected tests have been carried out on *Junckers Sylvasport Premium Beech* sports hall flooring surfacing, following test procedures and criteria detailed in *BS EN 14904:2006, the European Standard for "Surfaces for sports areas — Indoor surfaces for multi-sports use"*.

The system was assessed for Shock Absorption, Vertical Deformation, Friction, Vertical Ball Behaviour and Resistance to a Rolling Load\*.

The sample was prepared by the client and tested at the client's premises:

VA Hutchison Flooring Ltd  
Units 1, 2 and 3 Building NA,  
Beeding Close  
Southern Cross Trading Estate,  
Bognor Regis,  
West Sussex  
PO22 9TS

The system was tested on 23<sup>rd</sup> May 2019.

This report details the results obtained for the sample of *Junckers Sylvasport Premium Beech* tested.

## 2 SAMPLE DETAILS

The product is designed as an “area-elastic floor” as defined in BS EN 14904:2006 intended for indoor use only.

*Junckers Sylvasport Premium Beech* is a solid hardwood flooring system that comprises boards that are 22 mm thick and 129mm wide.



**Floor tested**



**Top surface**

The test results obtained relate only to the sample provided for test.

The sample of flooring was assembled on a rigid concrete substrate for testing.

### 3 TEST PROCEDURES

The following test procedures were carried out:

**Shock Absorption** was determined using the method described in EN14808:2005. This test measures the degree by which the floor reduces the impact force which occurs when an athlete lands on it.

The test was devised to simulate the forces observed when a runner's heel strikes the ground. The apparatus consists of a 20kg mass, which is allowed to fall onto a stiff spring resting on the floor. The force which results from the impact depends on the relative stiffness of the floor to that of the spring. The test is carried out on a concrete floor as well as on the floor under test and the result quoted is the amount by which the force measured on the test floor is lower than the force measured on concrete.

**Vertical Deformation** was determined using the method described in EN 14809:2005. In this test, the amount by which the floor deflects under impact load is measured directly. The test is similar in principle to the shock absorption test. However, a softer spring is used and the drop height is adjusted so that the peak force produced falls within a certain range.

**Friction** was determined using the method described in EN 13036-4:2011.

The test was carried out using the 'CEN' rubber foot. This test uses a pendulum carrying at its end a spring-loaded slider, which makes contact with the floor over a set distance. The angle through which the pendulum swings after it has made contact with the floor depends on the friction between the slider and the floor.

**Vertical Ball Behaviour** was determined using the method described in EN 12235:2013. A Molten Gr7 basketball was dropped from a height of 1.8m and an acoustic timing device used to measure the rebound height. From this, the percentage rebound height relative to the rebound of the same ball on concrete was calculated.

**Resistance to a Rolling Load\*** was determined using the method described in EN 1569:1999. The test is carried out on the complete floor. A steel wheel whose width, diameter and corner radii are defined, loaded to 1500 N, is rolled repeatedly over the surface. After 300 passes, the floor is examined for damage.

As the surface described in this report is intended for indoor use, all tests were carried out under dry conditions only.

**Tests positions:** tests were conducted at four positions.

- **Positions 1 and 2:** between battens
- **Positions 3 and 4:** above cradle

## 4 RESULTS

Performance tests:

### *Junckers Sylvasport Premium Beech*

Tested on 23/05/2019

Test	Units	Test positions					Typical values for area-elastic sports floors	
		1	2	3	4	Mean	Type A3	Type A4
<b>Shock Absorption</b>	<b>% ± 1</b>	63	63	61	60	62	≥ 40 < 55	≥ 55 < 75
Difference from mean		1	1	1	2	-	≤ 5 units	
<b>Vertical Deformation</b>	<b>mm ± 0.1</b>	2.5	2.2	2.7	3.0	2.6	≥ 1.8 < 3.5	≥ 2.3 < 5.0
<b>Vertical Ball Rebound</b>	<b>% ± 1</b>	91	93	92	92	92	≥ 90	
Difference from mean		1	1	0	0	-	≤ 3 units	
<b>Friction *</b>								
along grain	<b>- ±3</b>	102	-	-	-	-	80-110	
across grain		106	-	-	-	-		
Difference from mean							≤ 4 units	

\* Due to the uniformity of the surface, Friction test was carried out at one position only.

There was no damage to the floor following Rolling Load test.

## 5 CONCLUSIONS

When tested to selected tests from BS EN 14904: 2006 - "Surfaces for sports areas — Indoor surfaces for multi-sports use", the sample of *Junckers Sylvasport Premium Beech* floor satisfied the requirements for:

- Shock Absorption (Type A4)
- Vertical Deformation (Type A3)
- Surface Friction (Type A3 and A4)
- Vertical Ball Behaviour (Type A3 and A4)
- Resistance to a Rolling Load\*

There was no damage to the floor following Rolling Load test.

Results relate only to the sample provided for test.

**END OF REPORT**

## **APPENDIX A- TEST CERTIFICATE**

## TEST CERTIFICATE

**THIS IS TO CERTIFY THAT THE SAMPLE OF SPORTS HALL FLOOR SYSTEM**

***Junckers Sylvasport Maple Champion***


*supplied by:*

*VA Hutchison Flooring Ltd*

***has been tested to selected tests from BS EN 14904:2006 - "Surfaces for sports areas — Indoor surfaces for multi-sports use" and met the requirements for:***

*Shock Absorption (Type A4)  
Vertical Deformation (Type A3)  
Surface Friction (Type A3 and A4)  
Vertical Ball Behaviour (Type A3 and A4)  
Resistance to a Rolling Load\**

*Tests marked \* are outside the scope of our accreditation under UKAS*



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Susana Ruiz de Castroviejo  
Operations Manager



**Date: 14<sup>th</sup> June 2019**

**IMPORTANT:** *The performance of many sports and recreation surfacing products can be influenced by changes to their thickness, density and other properties and by the manner in which they are installed. Reference should always be made to the Laboratory Report relating to this Certificate, to ensure relevance to the intended situation. The Laboratory Report to which this Certificate relates is numbered:*

**AP- 0501/2 dated 14<sup>th</sup> June 2019**

CST is a member of the International Association for Sports Surface Sciences (ISSS) and formally accredited by the International Association of Athletics Federations (IAAF), the International Tennis Federation (ITF) and the Union des associations européennes de football (UEFA) for the testing of products to their specification.