



# LABOSPORT

## Laboratory Test Report

FIBA Approval Programme for Basketball Equipment

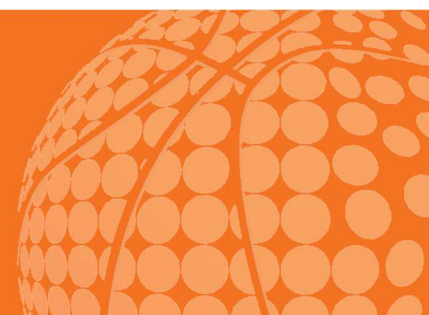
Handbook of Test Methods and Requirements – Edition V2.0

Manufacturer Name: **Jiangsu Boker New Material Tech. Co., Ltd**

Model Name: **PVC SPORTS FLOORING – DMD FLOOR 90**

LS	Synthetic Flooring	07/11/2023	PASS
----	--------------------	------------	------

*This is not a Certificate of Approval*




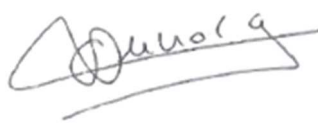


### Introduction

Test results, in accordance with the FIBA Equipment & Venue Centre Approval Programme for Basketball Equipment, are presented in full within this report. This report does not imply FIBA approval or certification regardless of its contents or compliance to the FIBA requirements. FIBA approval or certification will always be awarded to the applicant directly from FIBA. Neither FIBA, nor the Test laboratory accept responsibility to third parties to whom this report, or any part thereof, is made known.

### Declaration of Conformity

We certify that the tests described in this report have been carried out in accordance with the latest publication of the FIBA Handbook of Test Methods and Requirements and this report accurately reflects the outcome of the tests conducted. We also confirm that, to the best of our knowledge, all samples submitted for certification were done so in accordance with the requirements of the handbook.

<b>Report Written By:</b>	Xiong Yihai	<b>Report Checked By:</b>	Olivier Ducrocq
<b>Date:</b>	07/11/2023	<b>Date:</b>	07/11/2023
<b>Signed:</b>		<b>Signed:</b>	

### Test Laboratory


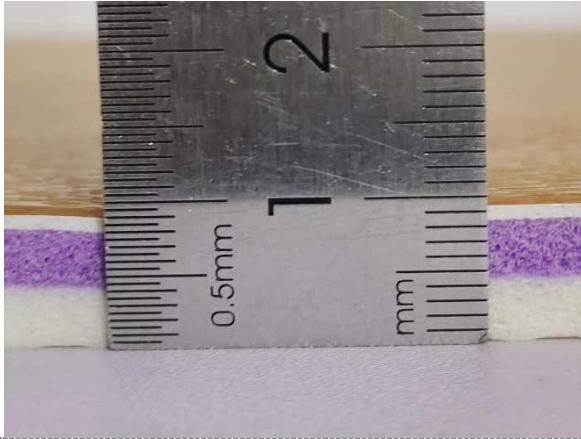
<b>Test Laboratory Name:</b>	Guangzhou Labosport Co., Ltd.
<b>Address:</b>	1/F, Building C, No.1 Huan Bao 3rd Road, Xintang Town, Zengcheng District
<b>City &amp; Postal (ZIP) Code:</b>	511340 Guangzhou
<b>State or Province:</b>	Guangdong
<b>Country:</b>	China
<b>Telephone:</b>	+86-20-8190 0714
<b>Email:</b>	asia@labosport.com

### Product Manufacturer

<b>Manufacturer's Name:</b>	Jiangsu Boker New Material Tech. Co., Ltd
<b>Address:</b>	No 3 Xiasheng Road, Qiaoqi Industrial Zone, Jiangyin, Wuxi
<b>City &amp; Postal (ZIP) Code:</b>	Jiangyin 214408
<b>State or Province:</b>	Jiangsu
<b>Country:</b>	China
<b>Telephone:</b>	+86- 051086576613
<b>Email:</b>	ellen@bkflor.com





Product Description		
<b>Installation Type:</b>	Fixed	<b>Surface Profile Image [Plan View]:</b> 
<b>Surface Level:</b>	Level 2	
<b>Surface Type:</b>	Point-elastic	
<b>Surface Material:</b>	Polyvinyl chloride (PVC)	
<b>Upper Surface Thickness [mm]:</b>	9	
<b>Sample Size:</b>	Other - Provide details below	
<b>Note:</b> 1.8m x 1.5m		
<b>Description of the Construction:</b> Transparent PVC wear layer 0.5mm Color printed layer 0.1mm Reinforced layer 0.7mm Fiber glass mesh layer 0.1mm Double colored foam layer 7.5mm Anti-movement backing layer 0.1mm		<b>Surface Profile Image [End Elevation]:</b> 
<b>Note:</b> The surface image must show the below details, where this isn't possible in a single image, additional images can be submitted in the 'Additional Notes' Section of this document. <ul style="list-style-type: none"> <li>• Surface Laminations</li> <li>• Steel Rule placed to provide reference of sample thickness</li> </ul>		
Sample Description		
<b>Number of samples submitted for testing:</b>		1
<b>Laboratory Sample Reference No(s).</b>	<b>Global Reference No.</b>	S23560
	<b>Surface Sample 1</b>	-
	<b>Surface Sample 2, if applicable</b>	-
	<b>Surface Sample 3, if applicable</b>	-
<b>Test Laboratories are required to store a reference sample of the tested product for a period of 5-years. By checking the box opposite, we confirm a 200x200mm sample has been placed in storage and will be retained for the minimum term of 5-years.</b>		<input checked="" type="checkbox"/> A sample of the tested product has been placed in storage and shall be retained for at least a 5-year period.



Results Summary			
Performance Property	Results	Requirement	Pass/ Fail
Force Reduction	40%	Point Elastic: 25% - 75%	PASS
		Mixed Elastic: 45% - 75%	
		Area Elastic: 40% - 75%	
		Combined Elastic: 45% - 75%	
Force Reduction Uniformity	-1%/+0%	±5% from average	PASS
Vertical Deformation	1.9mm	Point Elastic: ≤ 3.5mm	PASS
		Mixed Elastic: ≤ 3.5mm	
		Area Elastic: 1.5mm – 5.0mm	
		Combined Elastic: 1.5mm - 5.0mm	
Vertical Deformation Uniformity	-0.0mm/+0.1mm	±0.7mm from average	PASS
Ball Rebound	99%	≥90%	PASS
Ball Rebound Uniformity	-1%/+0%	±3% from average	PASS
Slip Resistance	95	Average ≥80 ≤110	PASS
Resistance to Wear	26mg	≤1000mg	PASS
Rolling Load	0.30mm	≤ 0.5mm permanent indentation	PASS
Rolling Load Visual Inspection	No Excessive Damage	No Excessive Damage	PASS
<b>Summary notes:</b> -			



### Force Reduction - Overview

Force reduction is the ability of the surface to provide cushioning to the athlete during landing from a jump or during running. Higher force reduction values indicate a softer sports surface which absorbs the energy from impacts. A low force reduction value indicates a stiffer surface.

### Force Reduction – Requirements

Test	Level 2 Synthetic Permanent & Mobile
Force Reduction	Point Elastic: 25% - 75%
	Mixed Elastic: 45% - 75%
	Area Elastic: 40% - 75%
	Combined Elastic: 45% - 75%
Uniformity	±5% from average

### Force Reduction – Results

Date:	25/10/2023	Air Temperature (°C):	23.4
Operator:	Tang Shubin	Relative Humidity (%):	49

Location	Measurement No.			Average of Drops No. 2 and 3
	D1	D2	D3	
1	40.0%	39.3%	39.3%	39%
2	40.5%	39.6%	39.6%	40%
3	40.6%	39.7%	39.8%	40%
4	40.4%	39.1%	39.6%	39%
5	40.8%	39.9%	39.9%	40%
6 (if applicable)	-	-	-	-
7 (if applicable)	-	-	-	-
8 (if applicable)	-	-	-	-
Calculated Uniformity from Measured Locations:				-1%/+0%



### Vertical Deformation - Overview

Vertical Deformation is the ability of the surface to deform during landing from a jump, during running or during any foot-floor contact. The test focuses on the deformation generated at the point of impact, and it is thought that vertical deformation values that are too high decrease foot stability. It involves computing a normalized deformation, measured in millimetres, under a standard load of 1500 N (ie 2.4 mm). A higher value for vertical deformation means that the sport surface deforms more during foot-floor impacts.

### Vertical Deformation – Requirements

Test	Level 2 Synthetic Permanent & Mobile
Vertical Deformation	Point Elastic: ≤ 3.5mm
	Mixed Elastic: ≤ 3.5mm
	Area Elastic: 1.5mm – 5.0mm
	Combined Elastic: 1.5mm - 5.0mm
Uniformity	±0.7mm from average

### Vertical Deformation – Results

Date:	25/10/2023	Air Temperature (°C):	23.4	
Operator:	Tang Shubin	Relative Humidity (%):	49	
Location	Measurement No.			Average of Drops No. 2 and 3
	D1	D2	D3	
1	1.92mm	1.90mm	1.87mm	1.9mm
2	1.88mm	1.92mm	1.88mm	1.9mm
3	1.98mm	1.94mm	1.89mm	1.9mm
4	2.06mm	1.89mm	1.83mm	1.9mm
5	2.21mm	2.03mm	1.90mm	2.0mm
6 (if applicable)	-	-	-	-
7 (if applicable)	-	-	-	-
8 (if applicable)	-	-	-	-
<b>Calculated Uniformity from Measured Locations:</b>				-0mm/+0.1mm



### Ball Rebound - Overview

A basketball is released from a height of 1.8m and the height of its rebound from the surface calculated in accordance to EN 12235 and expressed as a percentage relative to that of a rebound on a concrete surface. Higher ball rebound values rebound to levels that are closer to those generated on concrete.

### Ball Rebound – Requirements

<b>Test</b>	<b>Level 2 Synthetic Permanent &amp; Mobile</b>
<b>Ball Rebound</b>	≥90%
<b>Uniformity</b>	±3% from average

### Ball Rebound – Results

<b>Date:</b>	07/11/2023	<b>Air Temperature (°C):</b>	24.1				
<b>Operator:</b>	Tang Shubin	<b>Relative Humidity (%):</b>	51				
Location	Measurement No					Average	Percentage Rebound %
	1	2	3	4	5		
<b>Concrete</b>	105.9cm	106.6cm	105.7cm	106.4cm	106.4cm	106.2cm	
<b>1</b>	104.1cm	103.4cm	103.2cm	104.3cm	105.2cm	104.1cm	98
<b>2</b>	104.6cm	105.0cm	104.6cm	105.5cm	104.6cm	104.8cm	99
<b>3</b>	104.6cm	105.2cm	105.2cm	105.9cm	105.7cm	105.3cm	99
<b>4</b>	105.5cm	105.5cm	105.2cm	104.8cm	104.6cm	105.1cm	99
<b>5</b>	104.8cm	104.3cm	105.7cm	104.6cm	105.0cm	104.8cm	99
<b>6 (if applicable)</b>	-	-	-	-	-	-	-
<b>7 (if applicable)</b>	-	-	-	-	-	-	-
<b>8 (if applicable)</b>	-	-	-	-	-	-	-
<b>Sample Average:</b>						104.8cm	99





### Slip Resistance - Overview

Slip Resistance also referred to as 'linear friction', is a measure of the surfaces ability to resist slippage and to provide adequate friction to allow players to make safe changes in direction during the game of basketball. Testing simulates the shoe-surface interface. Linear slip resistance, as detailed in EN 13036, is the indicative friction of the surface under skidding or quick stopping activities and is presented in whole number value (i.e. 100).

### Slip Resistance – Requirements

<b>Test</b>	<b>Level 2 Synthetic Permanent &amp; Mobile</b>
<b>Slip Resistance</b>	Average $\geq 80 \leq 110$

### Slip Resistance – Results

<b>Date:</b>	25/10/2023	<b>Air Temperature (°C):</b>	23.6			
<b>Operator:</b>	Tang Shubin	<b>Relative Humidity (%):</b>	48			
<b>Direction</b>	<b>Measurement No</b>					<b>Direction Average:</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
<b>0°</b>	94	94	94	95	94	94
<b>45°</b>	95	95	96	95	95	95
<b>90°</b>	97	97	97	97	97	97
<b>Surface Temperature at tested Location (°C):</b>			23.9	<b>Sample Average:</b>		95





### Resistance to Wear - Overview

This test measures the surfaces ability to resist wear and provides results indicative to the expected lifetime of the surface or its coatings. This is of particular importance in areas such as the three-point line. Weighted abrasive wheels are repeatedly passed across the surface and the respective mass loss from the surface is measured. A lower loss of mass indicates a higher resistance to wear.

### Resistance to Wear – Requirements

<b>Test</b>	<b>Level 2 Synthetic Permanent &amp; Mobile</b>
<b>Resistance to Wear</b>	≤1000mg

### Resistance to Wear – Results

<b>Date:</b>	25/10/2023	<b>Air Temperature (°C):</b>	23.1
<b>Operator:</b>	Tang Shubin	<b>Relative Humidity (%):</b>	49
<b>Sample No.</b>	<b>Pre-Abrasion Mass (g)</b>	<b>Post-Abrasion Mass (g)</b>	<b>Loss of Mass (mg)</b>
1	54.2492	54.2212	28
2	55.5663	55.5382	28
3	54.1611	54.1370	24
4	55.2352	55.2099	25
5	54.1997	54.1733	26
6	55.0542	55.0275	27
<b>Average Loss of Mass (mg):</b>			26



### Rolling Load - Overview

A rolling load is repeatedly traversed across the upper surface of the flooring material to locally stress the surface and determine its ability to resist indentation. A weighted steel wheel is utilised in the application of the load representing a worst-case scenario of heavy equipment being rolled across the court.

### Rolling Load – Requirements

<b>Test</b>	<b>Level 2 Synthetic Permanent &amp; Mobile</b>
<b>Rolling Load</b>	Permanent Indentation of $\leq 0.5\text{mm}$

### Rolling Load – Results

<b>Date:</b>	25/10/2023	<b>Air Temperature (°C):</b>	23.2
<b>Operator:</b>	Tang Shubin	<b>Relative Humidity (%):</b>	48
<b>Deformation Measurement (mm):</b>	<b>Initial Post-Test Measurement</b>		<b>Post- Recovery Measurement</b>
	0.40		0.30
<b>Visual Inspection Result:</b>	The area under test exhibited no notable damage following the Rolling Load test.		

Reference Image 1



Reference Image 2



Note: -



### Conclusion

The flooring samples submitted were tested in accordance with the most recent publication of the FIBA Equipment & Venue Centre Approval Programme for Basketball Equipment. We confirm all information presented within this report is accurate and appropriately reflects the performance of the samples submitted.

Based upon the test results we the test laboratory consider the samples supplied to have:



Met all requirements for FIBA product certification



Failed to meet all requirements for FIBA product certification

### Additional Notes

Use this section to insert any additional information or images relevant to the flooring samples submitted for assessment. Where the samples showed visible signs of deterioration following the Rolling Load test, images and a description of the damage observed may be supplied in this section. Any system with multiple, distinct layers should be recorded here, detailed the composition of each:

-

Reference Image A



Reference Image B





**Additional Notes - Continued**

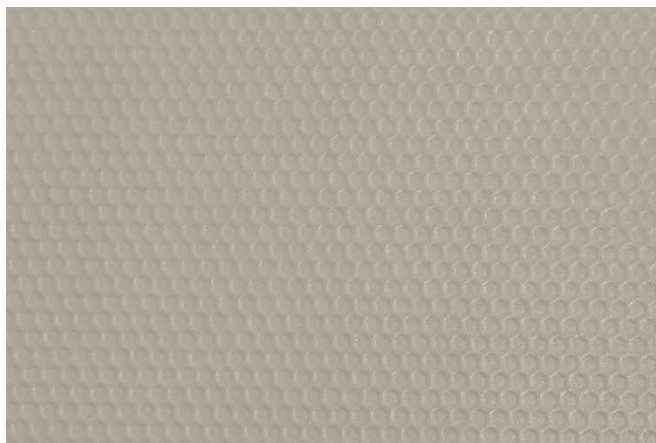
Use this section to insert any additional information or images relevant to the flooring samples submitted for assessment.

-

**Reference Image C**



**Reference Image D**



END OF REPORT

Adherence to the FIBA requirements does not constitute adherence to any regional, national or international safety or trading standards. It is the responsibility of the manufacturer to ensure products are in full compliance to any mandatory safety regulations for the intended region of product sale or installation. Products holding FIBA approval which are deemed to be in breach of any mandatory safety requirements shall have their FIBA approval revoked from the date at which the breach occurred.

**FIBA**  
**ACCREDITED**  
**TEST INSTITUTE**  
for basketball equipment

