

REPORT

SYNTHETIC SURFACE PRODUCT TEST

This form must be sent to: technicalofficer@worldathletics.org

Sample delivery address: World Athletics, Technical Manager, 6-8 Av. de la Quarantaine, 98000 MONACO

To obtain a World Athletics Product Certificate for a synthetic surface product, the material must have been proven to conform to the Track and Runway Synthetic Surface Testing Specifications. The testing must be undertaken by an Accredited Laboratory for Synthetic Surface Testing using equipment and testing procedures in accordance with the said Specifications and the results of the testing must be recorded on this pro-forma.

Four sample pieces of the product, each at least 0.5m × 0.5m, should be supplied to the laboratory by the manufacturer. (One sample for testing and three samples for retention by the laboratory under the direct control of World Athletics.)

| SYNTHETIC SURFACE PRODUCT | | | |
|---|---|---------------------------------|-------------------|
| Product Trade Name | BSS-2000 | | |
| Name of Manufacturer | Beynon Sports Surfaces, Inc. | | |
| Address | 16 Alt Road | | |
| City | Hunt Valley | Postal (ZIP) code | 210204 |
| Country | USA | State / Province | Maryland |
| Email | mgasparovic@beynonsports.com | Telephone | +1410-771-9473 |
| Basic Description | | | |
| <input checked="" type="checkbox"/> Full Polyurethane | <input type="checkbox"/> Spray-coat System | <input type="checkbox"/> Other: | |
| <input type="checkbox"/> Sandwich System | <input type="checkbox"/> Prefabricated | Absolute Thickness: 13.6mm | |
| <input type="checkbox"/> Porous | <input checked="" type="checkbox"/> Non-porous | | |
| Material Supplier(s) | PU - Beynon Sports, EPDM - Gezolan/Stargum, SBR Fine Mesh Rubber - Lehigh Technologie | | |
| Surface Composition | | | Approx. Thickness |
| Top Layer / Texture: | Liquid applied 2-component polyurethane with EPDM (1-4 mm) granules embedded | | 4-5mm |
| Middle Layer(s): | Thixotropic 2-component polyurethane | | 0.5mm |
| Bottom Layer: | SBR granules (1-4 mm) intermixed with 1-component polyurethane binder | | 9mm |

| TESTING | | | |
|---------------------|------------------|--------------|------------|
| Testing Laboratory: | LABOSPORT FRANCE | | |
| Tester(s)' Name(s): | Steve BAZEILLE | | |
| Test Report Number: | R211049-A1 | Date of Test | 03/06/2021 |

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|---------------------|--------------|-----------------|---------------------|-------------------|
| Product Name | Trade | BSS-2000 | Date of Test | 03/06/2021 |
|---------------------|--------------|-----------------|---------------------|-------------------|

A. Laboratory Testing

1. Difference between Overall Thickness and Absolute Thickness (in mm to 0.1mm)

| Thickness | Test 1 | Test 2 | Test 3 | Test 4 | Test 5 | Test 6 | Average |
|------------|--------|--------|--------|--------|--------|--------|---------|
| Overall | 14.1 | 14.3 | 14.1 | 14.2 | 14.8 | 14.2 | 14.3 |
| Absolute | 13.5 | 13.6 | 13.4 | 13.6 | 14.0 | 13.6 | 13.6 |
| Difference | 0.6 | 0.7 | 0.7 | 0.6 | 0.8 | 0.6 | 0.7 |

**A minimum of four thickness measures shall be taken.*

2. Testing at Standard Laboratory Temperature^Ø

| Recorded Test Drop No.* | Thickness (absolute) mm (to 0.1) | Sample Temperature °C | Shock Absorption % (whole) | Vertical Deformation mm (to 0.1) |
|-------------------------|----------------------------------|-----------------------|----------------------------|----------------------------------|
| 1 | 13.6 | 23.1 | 43 | 2.5 |
| 2 | 13.6 | 23.1 | 42 | 2.3 |
| 3 | 13.6 | 23.1 | 42 | 2.3 |
| Averages | 13.6 | 23.1 | 42 | 2.3 |

Ø Additional testing at other locations on the sample may be undertaken and recorded.

**The average result is determined from two recorded results for FR and three recorded results for VD in accordance with the Test Protocols*

Do any of the individual Shock Absorption and/or Vertical Deformation results fall outside the allowable ranges of 35% to 50% and 0.6mm and 2.5mm for Shock Absorption and Vertical Deformation respectively?

☐ YES ☒ NO

| | | | | |
|---------------------|--------------|-----------------|---------------------|-------------------|
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|---------------------|--------------|-----------------|---------------------|-------------------|

3. The Effect of Temperature on Shock Absorption and Vertical Deformation

| Thickness (absolute) mm (to 0.1) | Intended sample temperature °C | Actual Sample temperature °C | Shock Absorption % (whole) | Vertical Deformation mm (to 0.1) |
|-------------------------------------|-----------------------------------|---------------------------------|-------------------------------|-------------------------------------|
| 13.6 | 0 | -0.1 | 39 | 1.9 |
| 13.6 | 10 | 9.9 | 40 | 2.1 |
| 13.6 | 20 | 19.9 | 42 | 2.2 |
| 13.6 | 23 | 23.1 | 42 | 2.3 |
| 13.6 | 30 | 30.0 | 44 | 2.4 |
| 13.6 | 40 | 39.9 | 46 | 2.4 |
| 13.6 | 50 | 49.9 | 47 | 2.5 |

**The thickness should be the same for all temperatures. The absolute thickness recorded for the Product in the Certificate will be the thickness tested at 23°C or, if the thickness was not the same for all temperatures, it will be the greatest thickness tested.*

Do any of the individual Shock Absorption and/or Vertical Deformation results in the temperature range 10°C to 40°C fall outside the allowable ranges of 35% to 50%, and 0.6mm and 2.5mm for Shock Absorption and Vertical Deformation respectively?

☐ YES ☒ NO

If the answer is YES, then the manufacturer should be advised so that they can make the necessary arrangements to ensure that their surface will not fail an in-situ test because of temperature effects on the properties.

4. Friction (Coefficient of Friction or TRRL Scale reading)

| Test Number | Friction Reading |
|-------------|------------------|
| 1 | 57 |
| 2 | 57 |
| 3 | 56 |
| 4 | 58 |
| 5 | 57 |
| Average | 57 |

**Average of five readings for the TRRL Pendulum or the average of three readings for the Sliding Resistance Tester.*

Are any of the individual friction readings less than TRRL Scale reading of 47 or coefficient of Friction 0.5? (If so, highlight the readings in **BOLD**.)

☐ YES ☒ NO

| | | | | |
|---------------------|--------------|-----------------|---------------------|-------------------|
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|---------------------|--------------|-----------------|---------------------|-------------------|

5. Tensile Tests

| | | Specimen No* | | | | | |
|------------------|------------------|--------------|------|------|------|------|---------|
| Property | Unit | 1 | 2 | 3 | 4 | 5 | Average |
| Tensile Strength | MPa mm (to 0.01) | 0.65 | 0.66 | 0.63 | 0.67 | 0.63 | 0.65 |
| Elongation | % (whole) | 56 | 59 | 55 | 58 | 61 | 58 |

*A minimum of four specimens shall be tested.

Is the average Tensile Strength or the average Break Elongation % less than 0.5MPa for non-porous surfaces and 0.4MPa for porous surfaces, and 40% respectively?

☐ YES ☒ NO

B. Attachments

☒ A reference sample of 10cm × 10cm of the material tested is to be supplied with the report to World Athletics.

C. Conclusions


The synthetic surface product was tested in accordance with the World Athletics Track and Runway Synthetic Surface Testing Specifications as incorporated in the Track and Field Facilities Manual.

I hereby certify that all information provided in the report is accurate and is the result of well-conducted laboratory testing.

I consider that the synthetic surface product meets the requirements for a Product Certificate.

☒ YES ☐ NO

If the answer is NO, please state below the reason(s) why the synthetic surface product does not meet the Track and Runway Synthetic Surface Testing Specifications fully.

| | | |
|-----------------------------|------------------------------|--|
| Authorised Director: | BENOIT BOSSUET | |
| Date | Signature (scanned accepted) |  |
| 11/06/2021 | | |