



## BSS-100 SYNTHETIC TRACK SURFACING SYSTEM SYSTEM SPECIFICATIONS

### *Part 1 – General*

#### *1.1 – Scope*

*The synthetic surfacing contractor shall furnish all labor, materials, equipment, supervision, and services necessary for the proper completion of all Synthetic Track Surfacing and related work indicated on the drawings and specified herein.*

*The synthetic surfacing contractor shall refer to the drawings for the required locations of synthetic track surfacing to be installed. All quantities and dimensions shall be field verified by the synthetic surfacing contractor.*

The **BSS-100** is distributed by:



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#### *1.2 – Specific Scope of Work*

- A. *Install a porous polyurethane synthetic track system comprising of a base layer of polyurethane bound SBR rubber granules topped with a spray-applied coating of single-component polyurethane binder and EPDM granules.*
- B. *Layout and paint all track lines and event markings as required and specified by current IAAF and NCAA rules.*

#### *1.3 – Coordination*



*The synthetic surfacing contractor shall coordinate the work specified with an authorized and appointed representative of the owner so as to perform the work during a period and in a manner acceptable to the owner.*

## **Part 2 – Codes and Standards**

### **2.1 – Applicable Publications**

*Codes and standards follow the current guidelines set forth by the International Amateur Athletic Federation (IAAF) and the National Collegiate Athletic Association (NCAA), along with the current material testing guidelines as published by the American Society of Testing and Materials (ASTM).*

### **2.2 – Performance Standards**

*The new synthetic track surfacing system shall exhibit the following minimum performance standards (ASTM):*

A. Thickness:	(12-13mm) or as specified
B. Shore A Hardness:	55 ± 5 (ASTM D-2240)
C. Elongation at Break:	~90% (ASTM D-412)
D. Tensile Strength:	0.75 N/mm <sup>2</sup> (ASTM D-412)
E. Compression Set Recovery:	90%-95% over 24hr period (ASTM D-412)
F. Abrasion Resistance:	0.25 grams loss after 1000 cycles (ASTM D-501)
G. Coefficient of Friction:	Dry: 0.7-0.75, Wet: 0.6-0.65 (ASTM D-1984)
H. Resilience:	37%-39% (ASTM D-2632)
I. Tear Resistance:	50-65 psi (ASTM D-624)

## **Part 3 – Quality Assurance**

### **3.1 – Contractor Qualifications**

- A. *The installation/surfacing contractor shall have five (5) years experience of successfully installing basemat/structural spray running tracks and shall have installed a minimum of ten (10) complete polyurethane running track surfacing systems including structural spray.*
- B. *The installation/surfacing contractor shall be able to furnish evidence that they have been in business for a period of not less than five years, under the present name, and if required, furnish financial statements for each of the past three years.*
- C. *The installation/surfacing contractor is required to provide documentation that shows the selected specified and installed product meets IAAF Performance Specification for Synthetic Surfaced Athletics Tracks*

*(Outdoor) and is certified in terms of the IAAF certification system as updated on April 1, 1999.*

- D. The installation/surfacing contractor shall also be required to have a full time employee on staff with a “Certified Track Builder (CTB)” designation as awarded by the American Sports Builder’s Association. A current CTB certificate shall be included with the bid package for this project.*

### *3.2 – Submittals*

*The following submittals must be received with bid submittal:*

- A. Standard printed specifications of the synthetic track surfacing system to be installed on this project.*
- B. An affidavit attesting that the synthetic track surfacing material to be installed meets the requirements defined by the manufacturers currently published specifications and any modifications outlined in those technical specifications.*
- C. A synthetic track surfacing system sample, 6”x6” in size, of the same synthetic track surfacing system to be installed on this project.*
- D. An installation list of outdoor track facilities installed in the last two years using the exact synthetic track surfacing system specified herein.*

## **Part 4 – Materials**

### *4.1 – Primers*

*Primers shall be polyurethane-based, specifically formulated to be compatible with the paved SBR base and track surfacing material.*

### *4.2 – Black SBR Granules*

*The rubber granules for the base mat shall be recycled SBR rubber, processed and chopped to 1-3mm size, containing less than 4% dust.*

### *4.3 – EPDM Granules*

*The rubber granules for the structural spray wearing coats shall be EPDM peroxide cured, synthetic rubber containing a minimum 20% EPDM resin, with a*

specific gravity of  $1.5 \pm 0.1 \text{ g/cm}^3$ . The EPDM rubber shall be the same color as chosen by the owner for the track surface.

#### 4.4 – Polyurethane Binder

Binder for the black mat shall be an MDI-based single-component, polyurethane binding agent. The binder shall not have a free TDI monomer level above 0.2%, must be clear in color and must be solvent free. The binder must be specially formulated for compatibility with SBR rubber crumb.

#### 4.5 – Structural Spray Coating

The spray coating shall be an MDI-based single-component, moisture cured, 100% solids, pigmented polyurethane, specifically formulated for compatibility with EPDM granules. The coating shall be the color specified by the owner. Pigment intergraded in the field shall not be allowed.

#### 4.6 – Line Marking Paint

All line and event markings shall be applied by experienced personnel utilizing a single component, moisture cured, aliphatic polyurethane paint compatible with the synthetic track surfacing.

### Part 5 – Installation

#### 5.1 – Subbase

The Synthetic Track Surfacing System shall be laid on an approved subbase. The General Contractor shall provide compaction test results of 95% or greater for the installed subbase and asphalt surface.

For NCAA certification the following criteria must be followed. The track surface, i.e. asphalt substrate, shall not vary from planned cross slope by more than  $\pm 1\%$ , with a maximum lateral slope outside to inside of 1%, and a maximum slope of 1% in any running direction. The finished asphalt shall not vary under a 10' straight edge more than 1/8".

It should be the responsibility of the asphalt-paving contractor to flood the surface immediately after the asphalt is capable of handling traffic, but within 24 hours. If, after 20 minutes of drying time, there are birdbaths evident, it shall be the responsibility of the architect, in conjunction with the surfacing contractor to determine the method of correction. No cold tar patching, skin patching or sand mix patching will be acceptable.

Any oil spills (hydraulic, diesel, motor oil, etc.) must be completely removed, either by chipping out or removing and replacing with new, keyed in asphalt. The minimum depth of any asphalt replacement shall be one inch. The curing time for

*the asphalt base is 28 days. It shall be the responsibility of the surfacing contractor to determine if the asphalt substrate has cured sufficiently prior to the application of polyurethane surfacing system.*

*It shall be the responsibility of the general contractor to determine if the asphalt substrate meets all design specifications, i.e. cross slopes, planarity and specific project criteria. After all the above conditions are met, the synthetic surfacing contractor must, in writing, accept the planarity of the asphalt receiving base before work can commence.*

## **5.2 – Thickness**

*The thickness of the Synthetic Track Surfacing System shall be 13mm.*

## **5.3 – Equipment**

*The Synthetic Track Surfacing System components shall be processed and installed by specially designed machinery and equipment as manufactured by SMG. A mechanically operated paver with variable regulated speed and thermostatically controlled screed shall be used in the installation of the base mat utilizing continuous and computerized mixing. The wearing course shall be installed using automatic electronic portioning, which provides continuous mixing and feeding for an accurate, quality controlled installation.*

## **5.4 – Installation**

### **A. Base Course**

*The SBR granules and polyurethane shall be mixed together on site to regulate the ratio/quantity of SBR, not to exceed 82% in the base mat portion of the system. The single component polyurethane binder shall be mixed with the SBR rubber so that a minimum of 18%, by weight, exists in the final mixture. This mixture is then mechanically installed using the paver.*

### **B. Wearing Course**

*The 0.5 to 1.5 millimeter EPDM granules shall be mixed with the one-component structural spray coating. The structural spray shall be made in two uniform applications.*

## **5.5 – Site Conditions**

**A.** *Installation shall not take place if adjacent or concurrent construction generates excessive dust, abrasives or any other by-product that, in the opinion of the installer, would be harmful to the track material, until completion of such works.*

- B. *If, in the opinion of the installer of the synthetic material, the weather and/or climatic conditions are detrimental to the proper installation of the surfacing materials, work shall be delayed until conditions are acceptable. Preferred installation temperature is fifty degrees Fahrenheit and rising. Installation shall be executed only in dry conditions.*

## ***Part 6 – Line Striping and Event Markings***

### *6.1 – Layout*

*Line striping and event markings shall be laid out in accordance with current IAAF and NCAA rules.*

### *6.2 – Certification*

*Upon completion of the installation, the owner shall be supplied with all necessary computations and drawings, as well as a letter of certification attesting to the accuracy of the markings.*

## ***Part 7 – Guarantee***

*Synthetic track surfacing system shall be fully guaranteed against faulty workmanship and material failure for a period of three (3) years from the date of acceptance.*

*Synthetic surfacing material found to be defective as a result of faulty workmanship and/or material failure shall be replaced or repaired at no charge, upon written notification within the guarantee period.*