

**Shipley Track Specification**  
**Basemat with Structural Spray**  
**Synthetic Track Surfacing System Specifications**

**Part 1 – General**

**1.1 Scope**

- A. The synthetic surfacing contractor shall furnish all labor, materials, equipment, supervision, and services necessary for the proper completion of all **BSS 100** Synthetic Track (Basis of Design Surfacing and related work indicated on the drawings and specified herein.
- B. 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.

**1.2 Specific Scope of Work**

- A. Install an IAAF approved, porous polyurethane synthetic track system consisting of a base layer of polyurethane-bound SBR granules and topped with BEYPUR, a single-component polyurethane structural spray, and EPDM granules.
- B. Layout and paint all track lines and event markings as required and specified by current International Amateur Athletic Federation (IAAF) and the National Collegiate Athletic Association (NCAA) rules.

**1.3 Coordination**

- A. 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

A. 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 **BSS 100** Track Surfacing System shall exhibit the following minimum performance standards as required by IAAF:

- |    |                              |                            |
|----|------------------------------|----------------------------|
| A. | Thickness:                   | 13mm or as specified       |
| B. | Force Reduction:             | 35 to 50%                  |
| C. | <b>Vertical Deformation:</b> | <b>0.6 to 2.5mm</b>        |
| D. | Friction:                    | $\geq 0.5$ (47 TRRL Scale) |
| E. | Tensile Strength:            | $\geq 0.4$ MPa             |
| F. | Elongation at Break:         | $\geq 40\%$                |

## Part 3 – Quality Assurance

### 3.1 Contractor and Manufacturer Qualifications

- A. The CONTRACTOR must be an authorized installer by the manufacturer.
- B. The CONTRACTOR must have a minimum of 10 years experience in the installation of poured-in-place, two-component elastomeric polyurethane synthetic track surfacing.
- C. The CONTRACTOR shall be able to furnish evidence that they have been in business for a period of not less than 3 years, under the present name, and if required, furnish financial statements for each of the past 3 years.
- D. The CONTRACTOR must have installed a minimum of 10 outdoor track facilities in the last 2 years using the exact, IAAF certified, synthetic track surfacing, as specified herein with the contractor bidding this project.

- E. The MANUFACTURER must have a minimum of 10 years of experience with compound two-part polyurethane for athletic surfaces.
- F. The CONTRACTOR is required to provide documentation that shows the selected specified and installed product meets current IAAF Performance Standards for Synthetic Surfaced Athletics Tracks (Outdoor) and is certified in terms of the IAAF certification system as updated to present day.
- G. CONTRACTOR is to provide a list of completed facilities, minimum of 10 which are certified to meet IAAF/NCAA rules & regulations, utilizing the same product as specified.
- H. The MANUFACTURER must offer a minimum of seven (7) IAAF Certified Track Systems.
- I. All polyurethane components must be MANUFACTURED in the United States in an **ISO 9001:2008 Certified** facility to ensure the highest quality materials.

### **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, 12" x 12" in size, of the same synthetic track surfacing system to be installed on this project.
- D. A list of completed facilities, including the installing supervisor, of the exact synthetic track surfacing system.
- E. A current IAAF Certificate proving the product to be installed meets the current IAAF Performance Standards for Synthetic Surfaced Athletics Tracks (Outdoor).

## **Part 4 – Materials**

### **4.1 Primers**

A. Primers shall be BEYPRIM, a polyurethane-based primer specifically formulated to be compatible with the paved-in-place SBR granules and BEYPUR track surfacing material.

### **4.2 Black SBR Granules**

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

### **4.3 EPDM Granules**

A. The rubber granules for the BEYPUR structural spray wearing coats shall be EPDM, synthetic rubber containing a minimum 20% EPDM resin, with a specific gravity of  $1.5 \pm 0.1$  g/cm<sup>3</sup>. The EPDM rubber shall be the same color as chosen by the owner for the track surface.

### **4.4 Polyurethane Binder**

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

### **4.5 Structural Spray Coating**

A. The spray coating shall be BEYPUR, an MDI-based single-component, moisture cured, 100% solids, and 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**

A. All line and event markings shall be applied by experienced personnel utilizing the manufacturers' recommended pigmented paint compatible with the **BSS 100** Track Surfacing material.

## Part 5 – Installation

### 5.1 Subbase Requirements

#### A. Asphalt Compaction

a. The Synthetic Track Surfacing System shall be laid on an approved subbase. The General Contractor shall provide compaction test results of 92-96% for the installed subbase and asphalt surface.

b. 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 +/- 0.2%, with a maximum lateral slope outside to inside of 1%, and a maximum slope of 0.1% in any running direction. The finished asphalt shall not vary under a 10' straight edge more than 1/8".

c. It should be the responsibility of the asphalt-paving contractor to flood the surface immediately after the asphalt is capable of handling traffic. 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.

#### B. Asphalt Quality

a. No Recycled Asphalt Pavement (RAP) shall be used in the wear course asphalt mix design as the inclusion of RAP as an off-set to virgin asphalt binder results in a brittle hot-mix asphalt (HMA) with significantly lower tensile strength and fatigue resistance. The sports surfacing contractor will not be held responsible for asphalt failures resulting from the inclusion RAP in the HMA mix design of the wear course.

b. 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.

C. Responsibility of Others

a. 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**

A. The thickness of the **BSS 100** Synthetic Track Surfacing System shall be 13mm.

**5.3 Equipment**

A. The **BSS 100** Synthetic Track Surfacing System components shall be processed and installed by specially designed machinery and equipment. A mechanically operated paver with variable regulated speed and thermostatically controlled screed shall be used in the installation of the base mat. The wearing course shall be installed using automatic electronic portioning, which provides continuous mixing and feeding for an accurate, quality controlled installation.

B. No hand mixing is allowed.

**5.4 Installation**

A. Base Course

The SBR granules and BEYPUR shall be mixed together on site to regulate the ratio/quantity of SBR, not to exceed 82% by weight 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 20%, 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 BEYPUR, the single-component structural spray coating. The structural spray shall be made in two (2) uniform applications.

## **5.5 Site Condition**

- 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.
- C. Apply Synthetic Track Surfacing in dry weather when pavement and atmospheric temperatures are fifty (50) degrees Fahrenheit or above, and are anticipated to remain above fifty (50) degrees Fahrenheit for twenty-four (24) hours after completing application.
- D. The maximum temperature cannot exceed 105 degrees at any point during a 24 hour period.
- E. Rain cannot be falling. If there is a threat of rain, work shall cease until dry conditions can be re-established on the track pavement. Work is to proceed only when adequate curing can be guaranteed by the manufacturer.

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

### **6.1 Layout**

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

### **6.2 Certification**

- A. 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**

- A. The BSS 100 Track Surfacing System shall be fully guaranteed against faulty workmanship and material failure for a period of five (5) years from the date of acceptance. The warranty coverage shall not be prorated nor limited by the amount of usage.
- B. 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.

END OF SECTION