

# **SYNTHETIC SURFACING AND LINE MARKINGS FOR QC 3000FP**

## ***PART 1 – GENERAL***

### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions as previously specified, apply to this section.

### **1.2 SUMMARY**

- A. The contractor shall furnish all materials, labor, tools, and equipment necessary for the installation of the synthetic track surface and line markings on all areas detailed in the contract drawings
- B. Related Sections include the following:
  - 1. "Storm Drainage" for track and field drainage system
  - 2. "Hot-Mix Asphalt Paving" base for track surface
  - 3. "Aggregate" base for asphalt
  - 4. "Portland Cement" work for curbs and related areas

### **1.3 CODES AND STANDARDS**

- A. Codes and standards follow the current guidelines set forth by the National Federation of State High School Associations (NFHS), the National Collegiate Athletic Association (NCAA) and the International Association of Athletics Federations (IAAF).

### **1.4 SUBMITTALS**

- A. Submit three (3) sets of manufacturer's product data sheets including installation guidelines and maintenance instructions.
- B. Submit three (3) representative track samples in the color of surfacing to be installed.
- C. Submit test reports that verify the manufacturer's specifications (data) for the product to be installed.
- D. Submit documentation that verifies that the synthetic surfacing material does not contain any toxic or hazardous substance, which exceeds limits set forth by the EPA.
- E. Submit Material Safety Data Sheets (MSDS) for all individual components of the product being installed.
- F. Provide a letter stating that the surfacing contractor has reviewed the asphalt specification and accepts the specification as correct. Furthermore, the surfacing contractor shall provide a letter after checking the asphalt accepting it for synthetic surface installation. Should areas be found that do not meet specifications they shall be repaired or replaced by the asphalt contractor prior to the synthetic surfacing contractor issuing its letter of acceptance.
- G. The synthetic surfacing material manufacturer shall submit a letter stating that the surfacing contractor is qualified to install its synthetic surface system.
- H. Submit three (3) copies of a detailed drawing showing location and color of all lane lines, start, finishes and all related markings for the owner to review at least four weeks prior to their application.

- I. Submit evidence that the synthetic surfacing contractor holds the necessary contractor's license to install synthetic surfacing
- J. Submit evidence that the synthetic surfacing contractor is a member of the American Sports Builders Association (ASBA).

1.5 WARRANTY

- A. Provide a Five (5) Year Warranty against faulty workmanship and materials for the synthetic surface. The warranty period shall commence at final completion of the surfacing.
- B. A one (1) Year Warranty shall be provided for the line markings.

1.6 QUALITY ASSURANCE

- A. Provide a certificate of accuracy from a registered engineer, land surveyor or certified track builder by ASBA that the track measures 400 meters in all lanes from start to finish.
- B. Provide, as a part of the Warranty, documents stating that the materials applied conform to the manufacturer's specifications and that the material will not separate from the asphalt or concrete base, blister, bubble, fade, crack or wear excessively during the life of the warranty.
- C. The materials will not foam, thus causing air bubbles and reduce the life expectancy of the surface.
- D. The synthetic surfacing contractor and owner will annually walk and inspect the synthetic surface during the life of the warranty. Warranty issues will be repaired and for non-warranty items a method for correction will be presented.
- E. The synthetic surfacing contractor shall maintain a clean and orderly job site. All excess materials shall be removed from the construction area and properly disposed of. Scrap shall be removed in the same manner.

**PART 2 - PRODUCTS**

2.1 SYNTHETIC SURFACING

- A. The synthetic surfacing shall be a 15 mm thick, impermeable, full pour, self-leveling polyurethane and rubber granule surface with an embedded EPDM rubber granule finish.

2.2 PREQUALIFIED PRODUCT

- A. Quality Court Industries, LLC ; QC 3000FP (full pour system)  
 Contact: Mike Stewart 1-225-774-9984  
 e-mail: [mike@qualitycourt.com](mailto:mike@qualitycourt.com)
- B. Prequalified Equal

2.3 PROPERTIES\*

<u>PHYSICAL PROPERTY</u>	<u>REQUIREMENT</u>
Force Reduction (IAAF)	35-50%
Vertical Deformation (IAAF)	0.6-2.2 mm
Friction (wet) (IAAF)	≥ 0.5

Friction (dry) (DIN)	≤ 1.1
Tensile Strength (IAAF)	≥ 0.5 N/mm <sup>2</sup>
Elongation (IAAF)	≥ 40%
Thickness (DIN)	≥ 13 mm
Spike Resistance (DIN)	Class 1

\* all technical figures given are taken from the related test reports and refer to the main products. Therefore, depending on the substrate and application conditions, or in the case of using alternative products, results may vary.

## 2.4 SYSTEM COMPONENTS

- A. Polyurethane Primer shall be mixed 50/50 specifically for priming concrete/asphalt prior to installation of polyurethane coating. Primer is also used for priming cured polyurethane prior to the application of a new coating, when necessary. Concrete surfaces may require additional applications based on absorption rates.
- B. Polyurethane Coating shall be a two component self-leveling colored, polyurethane coating (polyol and isocyanate) containing no solvents, TDI, or mercury. The mix ratio, by weight, is 100 parts A to 61 parts B. (XX indicates color of polyurethane)
- C. SBR Rubber – SBR rubber granules shall be recycled black rubber that are processed and graded to 1-4 mm in size containing no fiber or metal and containing less than 4% dust.
- D. EPDM Rubber – EPDM colored virgin rubber granules that are processed and graded to 1.0 – 3.5 mm in size unless otherwise specified. The rubber shall contain a minimum of 20% EPDM and be approved by the resin manufacturer. The specific density shall be 1.60 +/- 0.08 and Shore A hardness of 60.

## **PART 3 EXECUTION**

### 3.1 ASPHALT AND CONCRETE PREPARATION

- A. It is the responsibility of the asphalt paving contractor to provide documentation that the paving meets those requirements set forth for asphalt paving. Additionally, the asphalt is to cure for a minimum of 28 days prior to synthetic surfacing being applied. Asphalt compaction tests are to be provided showing a compaction of 95% or greater. The asphalt will be checked with a 10 foot straightedge in all directions. Those areas not in conformance will be repaired and/or replaced by the paving contractor. Flooding the asphalt surface to locate irregularities is highly recommended.
- B. All concrete work is to cure for a minimum of 45 days. No curing agents are to be used. Any concrete flat work such as run ups etc will be checked as in 3.1.A.
- C. All areas to receive synthetic surfacing are to be clean and free of any loose particles or foreign substances such as dirt, oil, grease, etc.

### 3.2 INSTALLATION OF QC 3000FP SURFACING SYSTEM

- A. Base Layer - Applications of double mixed polyurethane coating at approximately 5.53 lbs/sy is applied with a notched squeegee. After the material has self leveled and is still liquid, dry SBR rubber granules (1-4 mm) are broadcast into the surface to excess. After curing (hardening) the excess SBR granules are removed for reuse. Total layer thickness to be approx. 5-6 mm.
- B. Intermediate Layer – Application of double mixed polyurethane coating at approximately 5.16 lbs/sy is applied with a notched squeegee. After the material has self leveled and is still liquid, dry SBR rubber granules (1-4 mm) are broadcast into the surface to excess. After curing (hardening) the excess SBR granules are removed for reuse. Total layer thickness to be approx. 4-5 mm

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- C. Top Layer – Application of double mixed polyurethane coating at approximately 6.45 lbs/sy is applied with a notched squeegee. After the material has self leveled and is still liquid, dry EPDM rubber granules (1-3.5 mm) are broadcast into the surface to excess. After curing (hardening) the excess EPDM granules are removed for reuse. Total layer thickness to be approximately 4-6 mm.
- D. All methods for mixing of products are to be approved by Stockmeier Urethanes and can be found on their Technical Data Sheet (TDS).
- E. All labor shall be full time employees of the surfacing contractor.

### 3.3 LINE MARKINGS

- A. All line marking paint is to be approved by the synthetic surfacing manufacturer.
- B. All markings will be in accordance to the desires of the owner. See 1.3.A.

### 3.4 SPECIFIC SLOPES

- A. Concrete curbs - All top elevations of any continuous concrete curbs shall be a constant elevation.
- B. Track oval – running direction 0.1%; lateral slope 2.0% max NFHS, 1.0% NCAA and IAAF.
- C. D areas (high jump) – towards cross bar 1% downward
- D. Run ups same as oval unless located in the “D”.

END OF SECTION