



## CSI p.1 | Accelerate 2.0

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### ***PLAE Accelerate 2.0 - Paved in Place Structural Spray Track***

#### **PART 1.0 - GENERAL**

##### **1.1 SUMMARY**

A. The work of this section includes:

1. PLAE Accelerate Paved in Place Structural Spray Track

B. Related Sections: Section(s) related to this section include:

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 fo curbs and related areas

##### **1.2 REFERENCES**

A. Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title, or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. 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).

##### **1.3 SYSTEM DESCRIPTION**

A. Performance Requirements: Provide paved in place track system, which has been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage, or failure.

##### **1.4 SUBMITTALS**

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data, including manufacturer's guide specifications product sheet, for specified products.

C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories, finish colors, patterns, and textures.

D. Samples: Submit selection and verification samples for finishes, colors, and textures.



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E. Quality Assurance Submittals: Submit the following:

1. Certificates: If required, certification of performance characteristics specified in this document shall be provided by the manufacturer.
2. Manufacturer's Instructions: Manufacturer's installation instructions.

F. Closeout Submittals: Submit the following:

1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operational Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
2. Warranty: Warranty documents specified herein.

### **1.5 QUALITY ASSURANCE**

A. Qualifications:

1. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required of this project.
2. Manufacturer's Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

B. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's instructions, and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

C. Provide a certificate of accuracy from a registered engineer, land surveyor or certified track builder that the track measures [specify] meters in all lanes from start to finish.

D. Provide, as 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.

E. The materials will not foam, thus causing air bubbles and reduce the life expectancy of the surface.

F. 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.

### **1.6 DELIVERY, STORAGE & HANDLING**

A. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials at temperature and humidity conditions recommended by manufacturer and protect from exposure to harmful weather conditions.



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### 1.7 PROJECT CONDITIONS

A. Temperature Requirements: Maintain air temperature in spaces where products will be installed for time period before, during, and after installation as recommended by manufacturer.

B. Field Measurements: Verify actual measurement/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

### 1.8 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and not a limitation of, other rights owner may have under contract documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

1. Warranty Period: 5 years commencing on date of substantial completion.

C. 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.

## Part 2.0 - PROPRIETARY PRODUCTS

### 2.1 MATERIALS AND ATTRIBUTES

A. PLAE Accelerate Paved in Place Structural Spray Track is a synthetic surface of 13 mm thickness, water permeable or impermeable suitable for all levels of competition. The system consists of a paved in black black rubber base mat bound with polyurethane and coated with multiple applications of spray applied pigmented polyurethane and like colored fine EPDM rubber granules to produce a fine textured surface. The finely granulated finish provides a soft, comfortable surface.

### 2.2 Proprietary Products

1. PLAE Accelerate Paved in Place Structural Spray Track

PERFORMANCE	REQUIREMENT
Force Reduction (IAAF)	35-50%
Modified Vertical Deformation (IAAF)	0.6-2.5mm
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)	≥ 13mm
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.



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### **2.3 SYNTHETIC SURFACING**

A. The synthetic surfacing shall be a 13 mm thick, permeable or impermeable structural spray system, with a paved in place rubber granule and polyurethane binder base layer. Two coats of a mixture of colored polyurethane and EPDM rubber granules are structurally sprayed onto the base to form a textured finish.

### **2.4 SYSTEM COMPONENTS**

#### **2.4.1 Polyurethane Primer**

A. Polyurethane Primer is used to prime cured polyurethane prior to the application of a new layer, when necessary.

#### **2.4.2 Basemat**

A. Polyurethane Binder shall be a single component, 100% polyurethane, moisture curing, middle viscosity polyurethane binding agent based on MDI/TDI. The level of the tolylene diisocyanate monomer is very low, less than 1/2 of 1%. Importantly, the binder contains no solvents and no extenders (plasticiser).

B. SBR Rubber granules shall be recycled black rubber that is processed and graded to 1 - 4 mm in size containing no fiber or metal and contains less than 4% dust.

C. Optional coating is applied, if track is required to be impermeable.

#### **2.4.3 Structural Spray**

A. Polyurethane Structural Spray shall be a single component spray coating. [Specify] indicates color choice.

B. EPDM colored virgin rubber granules that are processed and graded to 0.5 - 1.5 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.

C. EPDM rubber dust is a residual product made from the excess granules listed in B above. The material is 0.0 - 0.5 mm in size.

### **2.5 PRODUCT SUBSTITUTIONS**

A. Substitutions: No substitutions permitted

### **2.4 RELATED MATERIALS**

A. Related Materials: Refer to other sections listed in Related Sections paragraph herein for related materials.



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### **PART 3.0 - EXECUTION**

Specifier Note: Revise article below to suit project requirement and specifier's practice.

#### **3.1 MANUFACTURER'S INSTRUCTIONS**

A. Compliance: Comply with the manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions for installation.

#### **3.2 EXAMINATION**

A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

#### **3.3 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 straight edge 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 3.3.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.

Specifier Note: Coordinate article below with manufacturer's recommended installation details and requirements.

#### **3.4 INSTALLATION**

A. Paved In Place Track Installation: Comply with the manufacturer's recommendations for installation procedures and techniques.

B. Finish Color/Textures/Patterns: [Specify installation finishes coordinated with finishes specified in Part 2 Products.]

C. Related Products Installation: Refer to other sections listed in Related Sections paragraph herein for related products installation.

D. Primer - All asphalt and concrete is primed using a mixture of polyurethane binder and solvent. Application rate is approximately 0.28 lbs/sy. Only the area to be covered within the working day should be primed to ensure a good bond to the base. Concrete base may require additional coating based on absorption rate of applied primer.

E. Base Layer - The base layer is a mixture of 1 - 4 mm SBR black rubber granules mixed in a mechanical mixer with polyurethane binder. The materials are mixed until homogenous. Mixing ration is 100 parts rubber to 20 parts polyurethane. The prepared rubber and polyurethane is then paved in place using a heated mechanical screed paver, specially designed for this work.



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F. Structural Spray Coat (two applications) is spray applied with air and volume controlled spray equipment. Care is to be taken so as to provide an even surface without streaking. This is accomplished by reversing direction of application for the second spray coat. Total spray application rate for the system shall be 3.68 lbs/sy depending on product used. A mixture of structural spray and EPDM rubber granules is prepared in a mortar mixer or similar mixing vessel. A small quantity of EPDM dust may be required, for viscosity control, to provide a thick liquid mix for spraying.

G. All methods for mixing of products are to be approved by the manufacturer and can be found on their Technical Data Sheet (TDS).

H. All labor shall be full time employees of the surfacing contractor.

### **3.5 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.

### **3.6 FIELD QUALITY REQUIREMENTS**

Specifier Note: Edit paragraph below. Establish number and duration of periodic site visits with owner and manufacturer and specify below. Consult with manufacturer for services required. Coordinate paragraph below with Division 1 Quality Assurance Section and Part 1 Quality Assurance Submittals herein. Delete if manufacturer's field service not required.

A. Manufacturer's Field Services: Upon owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

1. Site Visits: [Specify number and duration of periodic site visits.]

### **3.7 CLEANING**

A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

### **3.8 PROTECTION**

A. Protection: Protect installed product and finished surfaces from damage during construction.

### **3.9 SCHEDULES**

A. Schedules: [Specify reference to applicable schedules.]

### **END OF SECTION**