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SECTION 2790 – SYNTHETIC SURFACING AND LINE MARKINGS FOR CONIPUR M

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). The NFHS rules shall be enforced where differences between the three associations are noted.

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.



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- 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 or land surveyor 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 14 mm thick, colored, impermeable, full pour, self-leveling polyurethane and rubber granule surface with an embedded EPDM rubber granule finish, suitable for international use.

2.2 PREQUALIFIED PRODUCT

- A. BASF/CONICA, Conipur M
- B. Prequalified Equal

Contact: David Painter 1-800-642-7010
e-mail dave.painter@partners.basf.com

2.3 PROPERTIES*

PHYSICAL PROPERTY REQUIREMENT

Water permeability	impermeable	
Relative abrasion resistance		DIN 18035/6 1.60
Spike resistance		DIN 18035/6 Class 1
Max. indentation when loaded		DIN 18035/6 7.30 mm
Remaining indentation	DIN 18035/6	0.79 mm
Ball rebound		DIN 18035/6 99 %



Sliding coefficient – dry/leather	DIN 18035/6 0.70 Wet/leather
	DIN 18035/6 0.62
Standard deformation – 0°C	DIN 18035/6 0.8 mm
20°C	DIN 18035/6 0.9 mm
40°C	DIN 18035/6 1.2 mm
Force reduction – 23C	IAAF 37%
Flammability behavior DIN 51960 Class 1	
Tensile Strength – standard climate	DIN 50014 0.75 N/mm ²
combined climate	DIN 53387 0.77 N/mm ²
Elongation at break – standard climate	DIN 50014 67 %
combined climate	DIN 53387 63 %
E-Module – standard climate	DIN 50014 2.36 N/mm ²
combined climate	DIN 53387 2.45 N/mm ²
(combined climate is heat, humidity and UV)	

* 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 (Conipur 74) – shall be a single component designed specifically for use in priming concrete prior to installation of polyurethane coating. Primer (Conipur 72) is also used for priming cured polyurethane prior to the application of new coating, when necessary.
- B. Polyurethane Coating (Conipur 210) – 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 65 parts B.
- C. Polyurethane Coating (Conipur 208) – shall be a two component colored self leveling polyurethane coating (polyol and isocyanate) containing no solvents, TDI, or mercury but designed to give a cellular structure on reaction. The mix ratio, by weight, is 100 parts A to 95 parts B.
- D. Base Layer Rubber – Low density colored EPDM rubber granules processed 1-4 mm in size containing less than 4% dust.
- E. EPDM Rubber – EPDM colored virgin rubber granules that are processed and graded to 1-3 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 CONIPUR M SURFACING



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- A. Base Layers (two) - Two applications of double mixed Conipur 208 polyurethane coating at approximately 4.25 lbs/sy are applied with a notched squeegee. After the material has self leveled and is still liquid, dry low density EPDM granules (1-4 mm) are broadcast into the surface to excess. After curing (hardening) the excess granules are removed for reuse. Total surface thickness to be approx. 10 mm.
- B. Top Layer – One application of double mixed Conipur 210 polyurethane coating at approximately 5.5 lbs/sy is applied on top of the base layer with a notched squeegee. After the material has self leveled and is still liquid, colored 1-3 mm EPDM rubber granules are broadcast into the surface to excess. After curing (hardening) the excess colored EPDM granules are removed. Then approximately 5.0 lbs/sy of EPDM will remain in the colored polyurethane. For a 14 mm system, approximately 14.0 lbs/sy of polyurethane coating will have been applied.
- C. All methods for mixing of products are to be approved by CONICA and can be found on their Technical Data Sheet (TDS)
- D. 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 02790