

SECTION 09 65 66
Resilient Athletic Flooring

PART 1: GENERAL

1.0 SUMMARY

1.0.1 Work Included

- A. Prefabricated Rubber Sports Flooring
- B. Adhesive and accessories required for installation and maintenance

1.0.2 Related Sections

- A. Section 02050: Basic Site Materials and Methods
- B. Section 02065: Cement and Concrete (includes bituminous material and bituminous concrete)

1.1 REFERENCES

1.1.1 American Society for Testing & Materials (ASTM)

- A. ASTM D 2047: Standard Test Method for Static Coefficient of Friction of Floor Surfaces
- B. ASTM D 2240: Standard Test Method for Rubber Property—Durometer Hardness
- C. ASTM D 5116: Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products
- D. ASTM E 648: Standard Test Method for Critical Radial Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
- E. ASTM E 662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
- F. ASTM F 970: Standard Test Method for Static Load Limit
- G. ASTM F 1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Sub-floor Using Anhydrous Calcium Chloride

1.1.2 International Association of Athletics Federations (I.A.A.F.)

- A. Performance Specifications for Synthetic Surfaced Athletic Tracks

1.2 SYSTEM DESCRIPTION

- A. Provide prefabricated athletic rubber flooring, dual durometer, vulcanized and calandered with a special texture. Material to be IAAF certified.
- B. Two layers are to be factory vulcanized, each layer having independent physical properties and biomechanical attributes. Poured-in-place systems will not be accepted.
- C. Provide an athletic rubber sheet, which has been manufactured to maintain performance criteria stated by manufacturer without defects, damage or failure.

1.3 SUBMITTALS

- A. Product data, including manufacturer's information for specified products
- B. Adhesive and line paint product data.
- C. Samples for colors and textures
- D. Shop drawing showing seam layout, profiles and product components
- E. Installation and maintenance instructions.
- F. Statement of the IAAF certification

1.4 QUALITY ASSURANCE

- A. The manufacturer must have a minimum of five (5) years experience in the manufacturing of prefabricated rubber surface.
- B. Manufacture must have ISO 9001 & ISO 14001 certification.
- C. Installer must have performed installations of the same scale in the last three years.
- D. Installer to be recognized and approved by the athletic rubber flooring manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Materials must be delivered in manufacturer's original, unopened and undamaged containers with identification labels intact.
- B. Store material up-right, protected from exposure to harmful weather conditions, on a clean, dry, flat surface protected from all possible damage.
- C. Recommended environmental condition for storage is a minimum of 55° F (13° C).
- D. Material need not suffer excessive damage during handling (i.e. edge chipping, excessive warping, etc).

1.6 SITE CONDITIONS

- A. Maintain a stable room and sub floor temperature for a period of 48 hours prior, during and 48 hours after installation. Recommended range: 65°F to 80°F (18°C to 27°C).
- B. Installation to be carried-out no sooner than the specified curing time of concrete sub floor (normal density concrete during time is approximately 28 days for development of design strength).
- C. Substrate Flatness (concrete or asphalt) must not vary more than 1/8" in 10' radius.
- D. Moisture vapor emission content of the concrete slab must not exceed 5lbs/1000ft² per 24 hrs when using the Calcium Chloride test as per ASTM F 1869.
- E. Installation of athletic flooring will not commence unless all other finishes in the building have been completed.

1.7 WARRANTY

- A. Provide manufacturer's standard warranty
- B. The athletic rubber flooring is warranted to be free from manufacturing defects for a period of five (5) years from the date of shipment from the manufacturer.

1.8 MAINTENANCE AND REPAIR

- A. Provide “attic stock” of each type and color.
- B. Repair material must be from the same dye lot as material supplied for initial installation.
- C. Maintain surface as per manufacturer’s instructions.

PART 2: PRODUCT

2.1 MANUFACTURER

Basis for design ProTraxx by TRACTION; 1258 North Rose Farm Road, Woodstock, IL 60098
(815) 337-9669

2.2.1 Description

- A. Prefabricated athletic rubber flooring, calandered and vulcanized in two independent layers, highly resistant to UV rays and atmospheric agents, with differentiated elasticity between top and bottom layers.
- B. Thickness: 6, 8,10,12,13 or 14mm
- C. Color: provided in standard colors, also provided in custom colors
- D. Finish: Track Embossing.
- E. Manufactured in two layers which are vulcanized together. The shore hardness of the top layer will be greater than that of the bottom layer.
- F. Top color layer of material must be free of recycled rubber granules or different color fillers.

2.2.2 Physical Properties

- A. Physical properties of the athletic rubber floor, to conform to the following requirements:

Physical Properties	Standard	Specification
I.A.A.F. Performance Specification	IAAF	Certified (provide independent test results)
Hardness Shore A	ASTM D 2240	55/40 (±5)
Modified Vertical Deformation (IAAF: 0.6-2.5mm)	IAAF (0.6-2.5)	1.8mm
Force Reduction (0°C-50°C)	IAAF (35%-50%)	40%
Heavy Metals	EN-71 PATR 3	Non-Detected
Resilience by Vertical Rebound	ASTM D2632	68
Tensile Properties Strength	ASTM D 412-98	≥ 1.25 Mpa



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SPIKE RESISTANT MULTISPORT SURFACE

Elongation at Break	ASTM D 412-98	≥ 200%
Coefficient of Friction (standard ≥ 0.50 wet)	ASTM D 1894	≥ 0.6 wet
Resistance to Fungi	ASTM G 21	Non-growth
Spike resistance		Very Good
Critical Radiant Flux	ASTM E 648	0.59 W/cm ² (Class I)
Optical Density of Smoke	ASTM E 662	<450, Class I
Color Stability		Good
Chemical Resistance		Good
UV Resistance		Good
Static Load Limit (250 lbs.)	ASTM F970-06	≤ 0.010 in.
Abrasion Resistance Taber (H18 Wheel, 1000 cycles, 1000g load)	ASTM D3389-05	≤ 1.8g (weight loss)

2.3 MATERIAL

- A. Provide athletic rubber surface ProTraxx in rolls.
- B. Provide T-111 two part polyurethane adhesive certified by the manufacturer or distributor.
- C. Patching compound and line marking paint, to be supplied or approved by rubber sport flooring manufacturer or distributor.

PART 3: EXECUTION

3.1 EXAMINATION AND PREPARATION

The following must be ensured prior to installation of the primary product:

- A. Concrete or Asphalt sub floors to be placed a minimum of thirty (30) days prior to the installation of athletic rubber floor.
- B. No concrete or asphalt sealers or curing compounds are applied or mixed with the sub floors (refer to Section 03050 of Division 3 and/or Section 02065 of Division 2).
- C. The underlayment is adequate (if installing over wood sub floors). APA Exterior Underlayment Grade Plywood is recommended.
- D. Water vapor membrane complies with specification in ASTM E 1745.
- E. Alkalinity test and moisture test must be performed. PH level should be in the range of 7 to 8.5. Moisture content must not exceed 5lbs/1000ft² per 24 hrs (verify using the calcium chloride test as per ASTM F 1869).
- F. Smooth, dense finish, highly compacted with a tolerance of 1/8" in the 10ft radius (3mm in 3.05 m radius). Floor flatness and floor levelness (FF and FL) numbers are not recognized.



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- G. Concrete or asphalt sub floors on/or below grade are installed over a suitable moisture retardant membrane as per ASTM E 1643 and E 1745.
- H. Sub floors must be clean, free of paint, dust, sealer, hardeners, grease, oil, solvents, or adhesive and any other foreign substances that may act as a bond barrier.
- I. Sealing of cracks, holes and, smoothing and leveling of rough, uneven surfaces, must be carried out using a good quality Portland cement based leveling compound (feathering compound), approved by the manufacturer.
- J. Installation will not be carried out unless above conditions are satisfied.
- K. Report any discrepancies to the General Contractor or Owner for correction.

3.2 INSTALLATION

- A. The surrounding area of the mixing of the adhesive should be covered with plastic, Kraft paper, or other material to protect the area.
- B. Mix and apply adhesive according to manufacturer's recommendations.
- C. When beginning the first row the adhesive should be applied evenly up to 2" (5cm) from both edges of the long seams and up to 12" (30cm) from the end seam.
- D. Complete an entire row before attempting to start the next row
- E. To start the second row, apply the adhesive underneath the long seam the same as above for the previous row as well as for the next row. (2" (5cm))
- F. Be certain that there is a good transfer of the adhesive when unrolling the material in the wet adhesive.
- G. Remove all excess adhesive that may ooze through the seams or any drops that may have dripped onto the surface. This can be done by rubbing with denatured rubbing alcohol. Do this before it dries.
- H. Use 2" (5cm) masking tape to help to close gaps in the seams and keep them in place while the adhesive sets. **Do not use** duct tape **EVER**, it will chemically react with the flooring surface.
- I. Cover every seam with weight such as bricks. These seams need to be covered for at least 12 hours and will prevent them from peaking. Double stack the bricks if necessary depending on the tension and thickness of the material.
- J. To eliminate any trapped air, use a lightweight roller 120 lb (55kg) and always roll this at a 45° angle.
- K. Be cautious when adjusting the end seams to not apply too much pressure while ensuring them to be perfectly sealed. If a seam becomes pressured, this too will cause peaking.