

SECTION 09 65 22
Resilient Athletic Flooring

PART 1: GENERAL

1.0 SUMMARY

1.0.1 Work Included

- A. 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 E 1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
- G. ASTM F 970: Standard Test Method for Static Load Limit.
- H. ASTM F 1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- I. ASTM G 21: Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

1.1.2 National Fire Protection Association

- A. NFPA 101: Code for Safety to Life from Fire in Buildings and Structures.

1.2 SYSTEM DESCRIPTION

- A. Provide prefabricated athletic rubber flooring, vulcanized and calendared with a smooth, matte finish.
- B. 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 and manufacturer's certificate of approval for the proposed application.
- C. Selection and verification samples for finishes, colors and textures.
- D. Shop drawings showing layout, profiles and product components.
- E. Installation and maintenance instructions as published by the manufacturer

1.4 QUALITY ASSURANCE

- A. The manufacturer must have experience in the manufacturing of prefabricated rubber surface.
- B. Installer to be recognised and approved by the athletic rubber-flooring manufacturer.
- C. Installer must have performed installations of the same scale in the last three years.
- D. Manufacturer Must have ISO 9001 and ISO 14001 Certificates.

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 protected from exposure to harmful weather conditions, on a clean, dry, flat surface protected from all possible damage.
- C. Recommended environmental conditions for storage are 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 subfloor temperature for a period of 48 hrs prior, during and 48 hrs 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 subfloor (normal density concrete curing time is approximately 28 days for development of design strength).
- C. Moisture vapor emission content of the concrete slab must not exceed 5 lbs/1000 ft² per 24 hrs when using the Calcium Chloride test as per ASTM F 1869-98.
- D. Installation of athletic flooring will not commence unless all other finishes in the area 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 three (3) years from the date of shipment from the manufacturer.
- C. The athletic rubber flooring is warranted against excessive wear under normal usage for a period of ten (10) years.

1.8 MAINTENANCE AND REPAIR

- A. Provide additional amount of approximately 2% of the total floor surface, 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

North American Specialty Flooring
1258 Rose Farm Road
Woodstock, IL 60098
815-337-9669

2.2 CONTROL XT

2.2.1 Description

- A. Prefabricated athletic rubber flooring, calendared and vulcanized with a base of natural and synthetic rubber, stabilizing agents and pigmentation, as manufactured by NASF.
- B. Thickness: 5,6,8,10,12,13,or 14 mm
- C. Texture: Smooth or Wood Grain
- D. Color(s): 9 Standard Colors (Custom colors are also available).
- E. Poured-in-place materials will not be accepted.

2.2.2 Physical Properties

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

Physical Properties	Standard	Specification
Shock Absorption	DIN 18032	35%
Hardness Shore A	ASTM D2240	68/55 ±5
Critical Radiant Flux	ASTM E648, NFPA 101	1.03 W/cm ² ,
Optical Smoke Density	ASTM E662	< 450 Class 1
Static Load Limit (mm) (250psi,24h)	ASTM F970-07	0.28
Fungal Resistance Test	ASTM G21-90	No growth
Coefficient of Friction	ASTM D2047	0.99 Dry, 1.11 Wet
Taber Abrasion H-18, 1000g, 1000cycle	ASTM D12894-01	0.029
Elongation	ASTM D-412	≥240
Tensile Strength	ASTM D-412	≥2,6
Ball Rebound	BS EN12235	≥95
V.O.C. Compliance	ASTM D5116	Yes
Color Stability		Good
Light reflection		Average
Chemical Resistance		Good

2.3 MATERIAL

- A. Provide Control XT athletic rubber surface in rolls (as specified in subsection 2.2.1)
- B. Provide T-111 Adhesive certified by the manufacturer.

- C. Patching compound and line marking paint, to be supplied or approved/recommended by rubber athletic flooring manufacturer.

PART 3: EXECUTION

3.1 EXAMINATION AND PREPARATION

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

- A. Concrete or Asphalt substrate 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 subfloors
- C. Water vapor membrane complies with specification in ASTM E 1745-97.
- D. 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 5 lbs/1000 ft² per 24 hrs (verify using the calcium chloride test as per ASTM F 1869-98).
- E. Smooth, dense finish, highly compacted with a tolerance of 1/8" in a 10 ft radius (3 mm in 3.05 m radius). Floor Flatness and Floor Levelness (FF and FL) numbers are not recognized.
- F. Concrete or Asphalt subfloor on- or below-grade is installed over a suitable moisture retardant membrane.
- G. Subfloors must be clean, free of paint, dust, sealer, hardeners, grease, oil, solvents, old adhesive and any other foreign substances that may act as a bond barrier.
- H. 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.
- I. The beginning of installation stipulates the acceptance of surface and site conditions.
- J. Installation will not be carried out unless above conditions are satisfied.
- K. Report any discrepancies to the General Contractor for correction.

3.2 INSTALLATION

Review manufacturer's printed instructions prior to installation.

- A. Install athletic flooring in accordance with manufacturer's Installation Instructions.
- B. Unroll sheet and allow relaxation.
- C. Inspect sheet for any damages or defects.
- D. Always install the flooring in the same direction.
- E. All edges must be straight-edged before adjusting the seams.
- F. Mix adhesive in accordance with manufacturer's instructions.
- G. Roll flooring in both directions with a 100 lbs (45 kg) sectional floor roller.
- H. Check for air bubbles and continue rolling if needed.
- I. Roll the seam with a hand roller and remove any excess adhesive that may have come through the seam.
- J. Hold all seams in place with suitable weights for a minimum of 12 hrs.
- K. Repeat the same procedure for the rest of the installation.
- L. Lines to be painted as per manufacturer's instructions and per drawings.
- M. Surface to be protected before, during and after installation until project's acceptance by the owner or his agent.



TRACTION

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SMOOTH OR TEXTURED ATHLETIC SURFACES

N. Allow adhesive to set 72 hrs before the initial cleaning of the surface.