

SECTION 09622 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 03300: Concrete Substrate
 - a. The concrete contractor shall furnish and install a slab that is smooth troweled, level to within 1/8" in any 10' radius, and depressed (if so specified) to the full depth of the flooring system. High spots shall be ground and low spots filled with an approved leveling compound by the concrete contractor to meet the approval of the floor contractor.
 - b. No curing compounds, agents or sealers shall be used.
- B. Section 07100: Waterproofing Membrane
 - a. The project engineer should specify an under slab waterproofing membrane according to need.
- C. Section 08700: Thresholds
 - a. Thresholds or transition strips should be installed by the flooring contractor and should be chosen to accommodate the need presented by the specified system and adjacent areas.

1.1 REFERENCES

1.1.1 American Society for Testing & Materials (ASTM)

- A. ASTM D 2240: Standard Test Method for Rubber Property—Durometer Hardness
- B. ASTM E 648: Standard Test Method for Critical Radial Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
- C. ASTM E 662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

1.2 SYSTEM DESCRIPTION

- A. Furnish and install the PowerDek Stone rubber athletic flooring by Traction.
- B. PowerDek Stone is a prefabricated rubber sport surface consisting of a base of natural rubber, synthetic rubber and stabilizing agents, which are vulcanized together.
- C. PowerDek Stone materials shall be in tiles that are 1m (39.2 in) x 1 m (39.2 in) or in rolls with a thickness of 6, 8 10, or 13mm.



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1.3 SUBMITTALS

- A. Product data, including manufacturer's information for specified products
- B. Samples for colors and textures
- C. Shop drawing showing seam layout, profiles and product components
- D. Installation and maintenance instructions.

1.4 QUALITY ASSURANCE

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

1.5 INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

- A. ISO 9001: Requirements for Quality Management Systems.
- B. ISO 14001: Requirements with Guidance for Use for Environmental Management Systems.

1.6 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. Area where materials are to be stored to be maintained at a minimum of 55°F and under 50% relative humidity.
- D. Material need not suffer excessive damage during handling (i.e. edge chipping, excessive warping, etc).

1.7 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.

1.8 WARRANTY

- A. Provide manufacturer's standard warranty



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- 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. Warranty shall include a 15 year wear warranty.

1.9 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 PowerDek Stone by TRACTION, North American Specialty Flooring, Woodstock, IL 866-757-5569

2.2 PowerDek Stone

2.2.1 Description

- A. PowerDek Stone is a multi-use rubber athletic flooring.
 - a. Prefabricated rubber sport surface to be manufactured in two layers, which are vulcanized together. Shore hardness of the respective layers to be as recommended by the manufacturer and within the limits hereinafter specified.
 - b. Thickness: 6, 8, 10, or 13mm
 - c. Color: Provided in standard and custom colors. Also, available with a solid background colors **with colored flecks** dispersed throughout material.
 - d. Material available in: Roll Goods, Tiles (1m x 1m) and Interlocking Tiles

2.2.2 Physical Properties

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

Physical Properties	Standard	PowerDek Stone
Thickness		6, 8, 10, or 13mm
Hardness Shore A	ASTM D 2240	68/59 (±5)
Water Absorption	ASTM D 570 (%)	0.13
Tensile Strength (kgf/cm ²)	ASTM D 412 (psi)	37
Ultimate Elongation	ASTM D 412 (%)	294
Modulus 20%	ASTM D 412 (%)	175

Tear Abrasion	ASTM D 501 (index)	126 (H22 Wheels; 1 Kg Load)
Tear Resistance	ASTM D 624 (lbf/in)	161
Dimensional Stability	ASTM D 1204	+0,02
Density of Smoke	ASTM D 662	411 (flaming)
Critical Radiant Flux	ASTM E 648 (w/cm2) / (class NFPA 101)	0.49 / 1
Compression Set (70°C, 22h)(%)	ASTM D 395 (%)	84
Friction Test	ASTM D1894-01	1.58 (Dry) & 1.55 (Wet)
Fire Resistance		Class 1, Inflammable
Static Load Limit (250 psi, 24h) (mm)	ASTM F970-07	0.46

2.3 MATERIAL

- A. Provide VOC compliant adhesive certified by the manufacturer or distributor.
- B. Patching compound and line marking paint, to be supplied or approved/recommended 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.
- 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 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 seam the same as above for the previous row as well as for the next row. (2" (5cm))
- F. Make sure that there is a good transfer of the adhesive when installing 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.