

SECTION 32 1816

PLAYGROUND SURFACING TILES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient playground safety surfacing tiles.
- B. Coordinate with work shown in other sections so the work is installed in a timely and qualitative process.

1.02 RELATED SECTIONS

- A.
- B.
- C.
- D.
- E.

1.03 REFERENCES

- A. ASTM C67 – Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- B. ASTM C 501 – Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser.
- C. ASTM D 412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension.
- D. ASTM D 573 – Standard Test Method for Rubber-Deterioration in an Air Oven.
- E. ASTM D 624 – Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
- F. ASTM D 2047 – Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.
- G. ASTM D 2859 – Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.
- H. ASTM D 3676 – Standard Specification for Rubber Cellular Cushion Used for Carpet or Rug Underlay.
- I. ASTM E 303 – Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.
- J. ASTM F 1292 – Standard Specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment.
- K. ASTM F 1487 – Standard Consumer Safety Performance Specification for Playground Equipment for Public use.
- L. ASTM F 1951 – Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

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- M. ASTM F 2223 – Standard Specification for Determination of accessibility of Surface Systems Under and Around Playground Equipment.
- N. US Consumer Product Safety Commission (CPSC) Handbook for Playground Safety.
- O. International Play Equipment Manufacturers Association (IPEMA) IPEMA Checklist for Access: http://voiceofplay.org/public/uploads/IPEMA_Checklist.pdf.
- P. WWW.ACCESS-BOARD.GOV.
- Q. WWW.ADA.GOV.
- R. Chapter 4, Accessible Routes, DOJ ADA 2010.
- S. Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities.

1.04 SUBMITTALS

- A. Comply with Section 01 3300 – Submittal Procedures
- B. Product Data: Submit manufacturer’s product data, including installation and subsurface instructions.
- C. Samples: Submit manufacturer’s sample of 1 full tile.
- D. Test Reports and Certifications: Submit test reports and certifications from qualified independent testing agency indicating the following tests:
 - 1. IPEMA Certification for Impact Attenuation: ASTM F 1292
 - 2. Slip Resistance: ASTM D 2047
 - 3. Slip Resistance: ASTM E 303
 - 4. Tensile Strength: ASTM D 412
 - 5. Elongation at Break: ASTM D 624
 - 6. Flammability: ASTM D 2859
- E. Certificate of Compliance: Submit manufacturer’s certificate of compliance indicating materials comply with the specified requirements.
- F. Manufacturer’s Project References:
 - 1. Submit list of 5 successfully completed projects within the last 3 years.
 - 2. Include project name and location, name of architect or owner, and type and quantity of playground safety tiles furnished.
- G. Installer’s Project References:
 - 1. Submit copy of manufacturer’s issued installation certification.
- H. Maintenance Instructions: Submit manufacturer’s maintenance and cleaning instructions.
- I. Warranty: Submit manufacturer’s Specimen Warranty

1.05 QUALITY ASSURANCE

- A. Manufacturer’s Qualifications: Manufacturer shall meet a minimum of 1 of the following 2 requirements.

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1. Continuously engaged in manufacturing of playground safety surfacing tiles of similar type to that specified, with a minimum of 15 years successful experience.
 2. Furnished a minimum of 25,000 square feet of playground safety surfacing tiles of similar type to that specified.
- B. Installer Qualifications:
1. Certified by manufacturer for installation of playground safety surfacing tiles.
 2. Approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage:
1. Store materials in accordance with manufacturer's instructions.
 2. Playground Safety Surfacing Tiles:
 - a. Store tiles in a dry area at a minimum temperature of 50 degrees F (10 degrees C) for a minimum of 72 hours before installation.
 - b. Protect tiles from direct sunlight before installation.
 3. Adhesive: Store adhesive in a dry area at a minimum temperature of 50 degrees F (10 degrees C).
- C. Handling: Protect materials during handling and installation to prevent damage.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Tile Temperature: Ensure surface temperature of playground safety surfacing tiles is a minimum of 41 degrees F (5 degrees C) at time of installation.
- B. Air Temperature: Ensure air temperature is a minimum of 40 degrees F (4 degrees C) at time of installation.
- C. Temperatures: Consult manufacturer for installation guide when tile or air temperatures are above 85 degrees F (29 degrees C).

1.08 WARRANTY

- A. Materials and Workmanship: Playground safety surfacing tiles shall be warranted for defects in materials and manufacturing workmanship for **5 years** (excluding labor) from date of completed installation (see manufacturer's specimen warranty in Section 1.04 I).
- B. Performance: Playground safety surfacing tiles shall be warranted to meet drop height performance requirements of ASTM F 1292 for the full length of the warranty term specified in Section 1.08 A (excluding labor) from the date of completed installation.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. SpectraTurf, 555 South Promenade Avenue, #103, Corona, CA 92879.
Phone: 951-736-3579 Fax: 951-734-3630
Website: www.spectraturf.com Email: info@spectraturf.com
- B. Product Substitutions:
1. Basis of Design products are listed in this section.
 2. Product substitutions shall be submitted according to the requirements within project specifications.
 3. Requests for substitutions from the specifications must be made in writing fourteen (14) calendar days prior to the bid date. Alternatives will be allowed only by addendum.
 4. To be considered, substitution requests shall show a product equal to or exceeding the product specified in this section and include all submittals conforming to this section.

2.02 PLAYGROUND SURFACING TILES

- A. Tiles: "SpectraBound" .
1. [Vulcanized SBR, EPDM] Color Series
 2. Description: Resilient playground surfacing tiles.
 3. Compliance: Meet and exceed CPSC guidelines for impact attenuation.
 4. Material: Compression molded, recycled rubber and binding agents.
 5. Tile Locking: Optional interlock using hardened aluminum "W" clips with integrated tree barb.
 6. Top Edges: Chamfered.
 7. Tile Bottom: Criss-cross hollow chamber support with center pedestal pattern.
 8. Wear Layer:
 - a. [Pigmented Vulcanized SBR granules sized 1-4 millimeters. Minimum 0.250 inch thick.]
 - b. [Virgin EPDM rubber granules sized 1-4 millimeters. Minimum 0.250 inch thick.]
 - c. Color as specified.
 9. Tile Size: 24" x 24" Nominal (size varies depending on temperature and UV exposure).
 10. Thickness:
 - a. Critical Fall Height 6 Feet: 2.50 inches
 - b. Critical Fall Height 8 Feet: 3.50 inches
 - c. Critical Fall Height 10 Feet: 3.75 inches

11. Minimum Weight Each Tile:

- a. 2.50-Inch Thickness: 27.75 pounds.
- b. 3.50-Inch Thickness: 34.50 pounds.
- c. 3.75-Inch Thickness: 36.00 pounds

B. Test Results:

- 1. Impact Attenuation, ASTM F 1292:
 - a. IPEMA Certified.
- 2. Freeze Thaw, ASTM C 67, ASTM F 355: No deterioration.
- 3. Slip Resistance:
 - a. ASTM E 303:
 - 1. Dry: 96 minimum
 - 2. Wet: 47 minimum
 - b. ASTM D 2047: Average 0.84
- 4. Tensile Strength, ASTM D 412: 162 Psi
- 5. Elongation at Break, ASTM D 412: 101.99%
- 6. Tear Strength, ASTM D 624: 59.38 Lbf/inch
- 7. Flammability, ASTM D 2859: Pass

2.03 ACCESSORIES

A. Corners:

- 1. Prefabricated outside and inside corners.
- 2. Material: Same as playground safety surfacing tiles.

B. Ramps:

- 1. Prefabricated Ramps.
- 2. Prefabricated ADA Ramps.
- 3. Prefabricated ADA Aprons.
- 4. Material: Same as playground safety surfacing tiles.

C. Adhesive: As furnished by the Manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine areas to receive playground safety surfacing tiles. Notify Architect if areas are not acceptable. Do not begin installation until unacceptable conditions have been corrected. Unacceptable conditions include:
1. Unsuitable pavement conditions.
 2. Finish surface tolerance greater than ¼ - inch maximum variation in 10 feet.
 3. Inadequate drainage.
 4. Interfering objects.
 5. Accessible route to tile area is not compliant with ADA code, Chapter 4, Accessible Routes, DOJ ADA 2010 and IPEMA checklist.
 6. Other unforeseen conditions that prevent the tiles from being installed per the contract documents.
- B. The playground safety surfacing tiles installer shall perform his own inspection of the site conditions and provide a letter of acceptance prior to any installation of playground safety surfacing tiles.

3.02 PREPARATION

- A. Prepare subsurface in accordance with manufacturer's instructions to ensure proper slope, support and drainage for playground safety surfacing tiles.
- B. Concrete Subsurface:
1. Concrete subsurface shall be as specified in Section:
 2. Apply light broom finish.
 3. Ensure concrete is sound with no loose materials or cracks over 1/8 inch wide.
 4. Ensure concrete is a minimum of 14 days old.
 5. Test concrete for moisture in accordance with manufacturer's instructions to ensure it has sufficiently cured and is dry.
 6. Power wash existing concrete in accordance with manufacturer's instructions.
- C. Asphalt Subsurface:
1. Asphalt subsurface shall be as specified in Section 32 1217.
 2. Ensure asphalt is sound with no loose material or cracks over 1/8 inch wide.
 3. Ensure asphalt is a minimum of 28 days old for glued applications or 7 days old for clipped applications.
 4. Test asphalt for moisture in accordance with manufacturer's instructions to ensure it has sufficiently cured and is dry.
 5. Scarify existing asphalt in accordance with manufacturer's instructions.

6. Variations in Elevation: Repair variations in elevation of completed subsurface greater than plus or minus ¼ inch over 10 feet in any direction.

3.03 INSTALLATION

- A. Install playground safety surfacing tiles in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Ensure prepared subsurface and tiles are dry and clean.
- C. Layout tile surface in accordance with manufacturer's instructions.
- D. Apply adhesive in accordance with manufacturer's instructions (if applicable).
- E. Installation to be completed by a factory trained and certified installer.
- F. Coordination: Coordinate with installation of play equipment.

3.04 CLEANING

- A. Remove adhesive spills from playground safety surfacing tiles in accordance with manufacturer's instructions.
- B. Clean tiles in accordance with manufacturer's instructions.

3.05 PROTECTION

- A. Protect playground safety surfacing tiles from foot traffic for a minimum of twelve (12) hours after installation.
- B. Protect completed tiles from damage during construction.

3.06 CLOSE OUT

- A. Provide the Owner with one copy of complete manufacturer's care and maintenance instructions.
- B. Provide the Owner with copy of Contractor's warranty on company letterhead.

END OF SECTION