

SECTION 32 18 16.13
PLAYGROUND RESILIENT SURFACING
FLEXIBLE INTERLOCKING TILE SURFACING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Resilient, Interlocking, Playground Safety Surfacing Tiles.

1.02 REFERENCES

- A. ASTM F1292-18 - Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.
- B. ASTM F 1951-14 – Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.
- C. ASTM D 3676 – Standard Specification for Rubber Cellular Cushion Used for Carpet or Rug Underlay.
- D. ASTM D 3389 – Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform Double-Head Method).
- E. ASTM D 412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers.
- F. ASTM D 624 – Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
- G. ASTM C 1026 – Standard Test Method for Measuring the Resistance to Freeze-Thaw Cycling
- H. ASTM D 573 – Standard Test Method for Rubber-Deterioration in an Air Oven (Heat Aged).
- I. ASTM E 648-10 – Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
- J. ASTM F 1551-03 – Standard Test Methods for Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials: Suffix-DIN 18-035, Part 6: Water Permeability of Synthetic Turf Systems and Permeable Bases.
- K. ASTM E 303 – Standard Test Methods for Skid Resistance on Coated Tile
- L. IPEMA Certified

1.03 SUBMITTALS

- A. Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including installation and/or subsurface recommendations.
- C. Samples: Submit manufacturer's sample of 1 full tile.
- D. Test Reports: Are available upon request
- E. Certificate of Compliance: Submit manufacturer's certificate of compliance indicating materials comply with specified requirements.
- F. Maintenance Instructions: Submit manufacturer's maintenance and cleaning instructions.
- G. Warranty: Submit Manufacturer's standard warranty.

1.04 QUALITY ASSURANCE

A. Installer's Qualifications:

1. Installers must have successful experience in installation of playground safety surfacing tiles of similar type to that specified, with a minimum of 20 projects completed within last 5 years.
2. Employ persons trained for installation of playground safety surfacing tiles and are approved by manufacturer

1.05 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.
- C. Playground Safety Surfacing Tiles:
1. Store tiles in a dry area prior to installation.
 2. Protect tiles from direct sunlight before installation.
- D. Adhesive: Store adhesive in a dry area at a minimum temperature of 40°F. Avoid adhesive applications below 40°F and above 105°F.
- E. Handling: Protect materials during handling and installation to prevent damage.

1.06 ATMOSPHERIC CONDITIONS

- A. Ideal Atmospheric Temperature is above 40°F and rising Atmospheric temperatures should be above 40°F for at least 24 hours and preferably climbing.
- B. Tile installation is not recommended if/when temperatures are expected to remain below 45°F for an extended period.
- C. Tile or Air Temperatures: Consult manufacturer's installation instructions for modified installation procedure when tile or air temperatures are above 85 degrees F (29 degrees)

1.07 WARRANTY

- A. Materials and Workmanship: Playground safety surfacing tiles shall be warranted for defects in materials and workmanship for 10 years from date of Final Acceptance (i.e. Notice of Completion).

PART 2: PRODUCTS

2.01 MANUFACTURER

RUBBER DESIGNS 100 Russ Drive SE, Calhoun, GA 30701
www.rubberdesigns.com 877-9-RUBBER (782237)

2.02 PLAYGROUND SURFACING TILES

- A. Tiles: "INTERLOCKING TILE".
1. Series: Interlocking Tile
 2. Description: Resilient, interlocking, playground safety surfacing tiles.

3. Compliance: Meet and exceed CSPC guidelines for impact attenuation.
 4. Material: Compression-molded, recycled rubber and binding agents.
 5. Tile Locking: U-shaped male and female configuration running full length on all 4 sides to lock tiles to adjacent tiles.
 6. Top Edges: Chamfered.
 7. Tile Bottom: Hollow core Tunnel Shaped Grid pattern.
 8. Wear Layer:
 - A. Standard Buffings: Rubber Buffings: 10 Mesh. Minimum .50 inch thick.
 - B. Standard EPDM: EPDM Granules: .5-1.5mm. Minimum .50 inch thick.
 9. Size: 23 13/16" X 23 13/16" Nominal. Installed size: 24" X 24"
 10. Thickness:
 - A. Critical Fall Height 4 Feet: 2.25 inches
 - B. Critical Fall Height 6 Feet: 2.75 inches
 - C. Critical Fall Height 8 Feet: 3.25 inches
 - D. Critical Fall Height 10 Feet: 4.25 inches
 11. Colors:
 - A. Standard Buffing Top Colors: [Green] [Brown] [Tan] [Grey] [Red] [Black]
 - Percent Color: [100 percent color].
 - B. Standard EPDM Colors: EPDM Granules
 - Percent Color: 50% color/50% black, 75% color/25% black and 90% color/10%black
 - [Beige] [Blue] [Green] [Red]
 - Premium Colors: 50% color/50% black, 75% color/25% black and 90% color/10%black
 - [Bright Blue] [Dark Blue] [Dark Green] [Pink] [Lilac] [Bright Red] [Bright Green] [Bright Yellow] [Yellow] [Bright Orange] [Beige Brown] [Brown] [White] [Eggshell] [Gray] [Middle Gray] [Dark Gray]
- B. TESTING RESULTS:**
1. Freeze Thaw, ASTM C 1026: no appearance of the presence of cracking, chipping, or breaking of the tile.
 2. Rubber Deterioration/Air Oven, ASTM D 573: Pass.
 3. Compression Set, ASTM D 395: 2.29 percent Compression Set.
 4. Tensile Strength, ASTM D 412: 132.92 psi.
 5. Elongation at Break, ASTM D 412: 56.46 percent.
 6. Tear Strength, D 624: 34.66 lbs./force/inch.
 7. Flammability:
 - a. Burning Pill, ASTM D 2859: Pass.
 - b. Critical Radiant Flux, ASTM E 648: No Classification.
 8. Determination of Accessibility, ASTM F 1951: Meets/Exceeds requirements.
 9. Water Permeability, ASTM F 1551: 43.8 inches/hour.
 10. Durometer Hardness, ASTM D 2240: 55.1.
 11. Static Coefficient of friction, ASTM C 1028:
 - a. Dry: .63
 - b. Wet: .47
 12. Taber Abrasion, Wear index, ASTM C 501: 94.4

2.03 ACCESSORIES

- A. Corners:
 - 1. Interlocking Inside and Outside Corner Ramp.
 - A. Material: Same as playground safety surfacing tiles.
- B. Ramps:
 - 1. Interlocking Ramps:
 - A. Material: Same as Playground safety surfacing tiles.
 - 2. Prefabricated ADA-Compliant Ramps:
 - A. Material: Standard Buffing Top
- C. Filler Sticks:
 - 1. Material: Black
- D. U-Lock:
 - 1. Material Black
- E. Adhesive
 - 1. Isobond ATS T04-37; Furnished by manufacturer.

PART 3: EXECUTION

3.01 EXAMINATION

Examine areas to receive playground safety surfacing tiles. Notify responsible parties if areas are not acceptable. Do not begin installation until unacceptable conditions have been corrected.

3.02 PREPARATION

Prepare subsurface in accordance with manufacturer's instructions to ensure proper slope, support and drainage for playground safety surfacing tiles.

Notes: Specify subsurface of concrete, or asphalt.

It is critical that a proper subsurface drainage system be constructed, or the tile surface may not stay level and may cause damage to the surfacing.

- Concrete Subsurface:
 - Concrete subsurface shall be as specified.
 - Apply light broom finish.
 - Ensure concrete is sound with no loose material.
 - Ensure concrete is a minimum of 7 days old.
 - Power wash existing concrete in accordance with manufacturer's instructions.
- Asphalt Subsurface: May require longer curing time to allow the oils to dissipate. Some asphalt surfaces may have a significant amount of tars or oils and the adhesive should be tested to ensure adhesion. After the adhesive, has cured and if the tiles can be pulled up with asphalt or concrete attached to the glue, it is the base that has failed, and not the adhesive.
 - Asphalt subsurface shall be as specified.
 - Ensure asphalt is sound with no loose material or cracks.
 - Power Wash existing asphalt.

3.03 INSTALLATION

- A. Install "Interlocking tiles" in accordance with manufacturer's instructions at locations indicated.
- B. Ensure prepared subsurface and tiles are dry and clean.
- C. Layout tile surface in accordance with manufacturer's instructions.

- D. Install tiles in single installation session, if possible.
- E. Apply adhesive in accordance with manufacturer's instructions for tile-to-tile as well as tile-to-base for all keystone and strategic tile rows.

3.04 CLEANING

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

3.05 PROTECTION

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

END OF SECTION