

SECTION 32 18 16.14 PLAYGROUND RESILIENT SURFACING TOTTURF RECYCLED SHREDDED RUBBER SURFACING

PART 1 – GENERAL

Details:

The work specified in this section consists of the installation of TotTurf recycled shredded rubber in accordance with these specifications, and in conformity with the dimensions and notes shown in the plans

Quality Assurance & Compliance Details:

Impact Attenuation – ASTM F1292: When installed to a compacted depth of 6 in. TotTurf recycled shredded rubber will, when tested according to ASTM F1292, have a critical height (i.e. G-max less than 200, HIC less than 1000) of 12 ft. minimum.

Loose-Fill Rubber Standard – ASTM F3012: TotTurf recycled shredded rubber must pass the ASTM F3012 testing for size distribution, hazardous metal content, and tramp metal content for loose-fill rubber that is intended to be used as a playground surface.

IPEMA Certified: Manufacturer must provide proof of certification. “In the interest of public playground safety, IPEMA provides an independent laboratory which validates a manufacturer’s certification of conformance to ASTM F1292. A list of current validated products, their thickness and critical heights may be viewed at www.ipema.com.

Submittal Details:

Submittal packages shall include but not be limited to (1) product samples, (2) supplier’s written warranty, and (3) independent laboratory results.

PART 2 – MATERIAL DATA

TotTurf Recycled Shredded Rubber:

TotTurf recycled shredded rubber is a rubber product manufactured from ground recycled tire rubber with loose fiber removed and free of foreign materials. It is comprised of a mixture of crumb rubber and rubber buffing’s to aid in compaction.

Composition:

- 100% ground recycled tire rubber from whole passenger and/or truck tires with loose fiber removed and free of foreign materials. Rubber is considered a non-hazardous filled hydrocarbon polymer that is non-toxic, non-metallic and principally a carbon-based organic material.
- Free Metal Content: < .01% (Wire Free) ASTM 5603
- Maximum Loose Fiber Content: < .01% by weight.
- Colorant: < .75% by weight.

Dimensions:

- 100% Shredded Rubber
- Average dimension is 1/2" x 2" length

Properties:

- Moisture Absorption: 0% maximum by weight.
- Moisture Content: < 1% by weight. ASTM 1509
- Density: 26-28 pounds per cubic foot.
- Acute Toxicity of Colorant: (>5000mg/kg (rat)) Meets criteria. Oral LD50 Test

Toxicity:

Product must prove to be non-toxic and may not produce toxic leachate. Bidder to provide toxicity data.

Packaging:

- Super Sacks –Palletized container bags with 2,000 pounds per bag. Need forklift to unload. Max of 22 pallets per truck.
- Bulk delivery in dump trailers is available in some, but not all areas.

PART 3 – SUB-BASE TYPES & DETAILS

TotTurf Shredded Rubber may be installed over compacted earth. If it is deemed that additional drainage is necessary, a layer of gravel can also be a suitable substrate.

PART 4 – SITE PREPARATION AND REQUIREMENTS

For in-ground (i.e. on grade) installations, excavate area to proper depth (6 inches for a 12-foot critical fall height).

Both in-ground and above-ground systems must be properly graded. A (1) percent grade is recommended for proper drainage. TotTurf recycled shredded rubber systems should not be installed on grades exceeding 10 percent. Substrate (for both in-ground and above-ground systems) must be firmly compacted, especially when additional fill material has been provided. The substrate should be free of stones, roots and other vegetation.

PART 5 – INSTALLATION

Robertson Industries, Inc. recommends that all materials provided by Robertson Industries, Inc., including product data, specifications, installation instructions and maintenance procedures, as well as all site specific plans, instructions and specifications, be reviewed by a certified engineer, architect or landscape architect familiar with local soil and climatic conditions.

Further, purchaser should determine and specify fall heights and equipment use zones as required by the Consumer Product Safety Commission's *Handbook for Playground Public Safety*, applicable ASTM standards, and state and local codes and regulations.

Installation Instructions

- 1) Install playground equipment
- 2) For above-ground systems, install retaining wall.
- 3) Install applicable drainage system.
- 4) If manufactured drainage is being used, the Terraflow should be laid out in parallel strips on six-foot centers. The strips must run from the high side of the playground to the low side. Terraflow drains should be placed directly on the sub-grade and should be covered with geotextile cloth after layout is complete. As an option for playgrounds with poor drainage, a Terraflow header strip may be cut and placed perpendicularly to the parallel strips already in place. This header strip should be placed on the low end of the playground. Any joints can be taped with a waterproof tape to maximize drainage.
- 5) If gravel drainage is used, place 3 in. of drainage gravel on a layer of geotextile fabric. The lower end of the site should be connected to drainage to channel collected water away from the site. Overlap all seams a minimum of 3 in. Slit fabric to fit around equipment uprights. Where possible, overlap all slits with next piece of fabric.
- 6) Cover drainage system (either manufactured drainage or gravel) or earth substrate with geotextile fabric. Overlap all seams a minimum of 3 in. Slit fabric to fit around equipment uprights. Where possible, overlap at slits with next piece of fabric.
- 7) With permanent marker or warning label, mark uprights of equipment with compacted system depth (i.e. 8 in. or 12 in.).

- 8) Install the TotTurf recycled shredded rubber to the proper depth, mounding in the center of the play areas of the playground. Use a Bobcat or a small front-end loader to spread surfacing. Operator should be careful not to travel on the fabric or turn sharply on the TotTurf recycled shredded rubber. It will also be necessary to spread manually. Install all the material delivered.
 - 9) Install TotTurf Advantage wear mats in excessive wear areas, such as slide exits, under swings, and sliding poles.
 - 10) For a smooth finished surface, hand rake. After two weeks of active use, surface should be raked again.
- Periodical adjustments of TotTurf recycled shredded rubber are required under slides, swings and other concentrated use zones. Installing GameTime mats in these areas will help control displacement in these high use zones. **WARNING: Failure to maintain TotTurf recycled shredded rubber at the initial installation depth may result in an injury and void your warranty.**

PART 6 – WARRANTY:

TotTurf warrants recycled shredded rubber against total color loss for eight (8) years from the purchase date. Ask your Robertson Industries, Inc., representative for a copy of our full TotTurf Recycled Shredded Rubber warranty.

PART 7 – MAINTENANCE:

Ask your Robertson Industries, Inc. representative for a copy of our full TotTurf Recycled Shredded Rubber maintenance details.

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