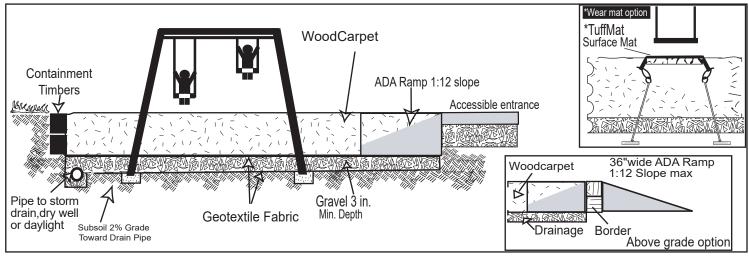
## SPECIFICATION- System 1

### SECTION 32 18 16.13

- A. Product Data: Submit manufacturer's product data, including warranty, maintenance recomendations, and installation instructions, ASTM F1292 test results, ASTM F1951 test results, ASTM F2075 test results, Protect Plus+ certificates of compliance, and samples.
- B. Manufacturer Qualifications:
  - 1. Member of International Play Equipment Manufacturer's Association (IPEMA).
  - 2. Total Liability Insurance Coverage: \$11,000,000.
  - 3. Sales Representatives attend National Playground Safety Institute (NPSI) training.
- C. Warranty Covers Playground Surfacing for Following Periods:
  - 1. Engineered Wood Fiber Playground Surfacing: 12" at 12 feet for 15 years with topping off (see warranty for details).
- D. Manufacturer:
  - 1. Main office: Zeager Bros., Inc., 4000 East Harrisburg Pike, Middletown, PA 17057. Toll Free (800) 346-8524



- E. Application: Outdoor playground surface using drainage gravel.
- F. Critical Fall Height: Ask equipment manufacturer for maximum fall height of play equipment. 12" depth of woodcarpet is recommended for fall heights up to 12 ft. 8" depth of woodcarpet is not recommended for fall heights over 4 ft.

# G. Installation Procedure:

- 1. Review project plans and verify that playground equipment use zones, clearances, and reach ranges will comply with ASTM F1487 sections 8, 9, and 10, and with CAN/CSA-Z614 sections 14 and 15.
- 2. Prepare the site in accordance with the project engineer's directions and project specifications. Ensure that the area surrounding the playground is graded and sloped to prevent sand, soil, silt, or other foreign material from contaminating the WoodCarpet. Grade the playground subsoil to a 2% grade toward the drain pipe. Max 7-8% with stable subsurface.
- 3. Install playground equipment.
- 4. Place a layer of geotextile fabric on top of the subsoil. Overlap seams 10 in. (25 cm), or 5 in.(13 cm) if a double bead of exterior grade construction adhesive is applied to the overlap. Place seams parallel to direction of slides and travel of swings when ever possible. For below grade sites with no containment border, run fabric up the side of the excavated ground to avoid soil and Woodcarpet engineered wood fiber from mixing together.
- 5. Excavate a minimum 8 in. x 8 in. (20 cm x 20 cm) trench along the low end of the area to a storm drain. Install drain pipe. Cover pipe with fabric.
- 6. Spread drainage gravel (0.5 in. 2.0 in (1.5 cm 5.0 cm) clean gravel) to a minimum depth of 3 in. (8 cm). Fill drainage trench.
- 7. Install timbers or an alternate containment system above or below grade. Provide for an accessible entrance using ramp assembly for above grade installs. Install ADA approved ramp to provide access into play area to allow for proper access and to maintain an area to meet ADA change in level limitations (1/4" straight, 1/2" beveled).
- 8. As described in Step 4, place an additional layer of geotextile fabric on top of the drainage gravel.
- 9. Spread WoodCarpet to the required depth. To make WoodCarpet immediately accessible, install WoodCarpet in 6 in. (15 cm) maximum layers. Rake level, wet, and mechanically compact each layer twice with a flat plate compactor. Change direction 90 degrees on second compaction. Exercise caution to prevent damaging the geotextile fabric and drain materials. Care should be taken when operating equipment directly on the geotextile fabric.
- 10. Install Tuffmat surface mats in high use areas. Go to www.zeager.com/ installation & videos for more information.
- 11. Inspect the playground and verify that playground equipment use zones, clearances, and reach ranges comply with ASTM F1487 sections 8, 9, and 10, and with CAN/CSA-Z614 sections 14 and 15.
- 12. Rake, level and compact WoodCarpet. Maintain as needed thereafter. See Zeager maintenance recommendations. **NOTE:** Tuffmats not available in New York, Oregon, Vermont & Washington.



April 2025

#### H. Notes:

- 1. Using drainage as recommended by Zeager is required for warranty coverage. Inadequate drainage may hasten decomposition and decrease impact absorption.
- 2. If not installing using mechanical compactors and wetting procedure described in the previous installation section, the surface may not meet accessibility standards and may require as much as 15% less Woodcarpet.
- 3. Periodic maintenance should include removing debris, raking and topping off by performing steps 9 12. Be sure to keep surfacing up to within 1/4" of the top of border where accessible entrance is to meet ADA standards. See WoodCarpet maintenance recommendations for more information.

#### I. Products:

- 1. Engineered Wood Fiber Playground Surfacing: WoodCarpet
  - a. Composition: 100% pre-consumer recovered wood.
  - b. Dimensions: Randomly sized wood fibers.
  - c. Sieve Analysis, ASTM F2075: Meets criteria.
  - d. Hazardous metal, ASTM F2075: Meets criteria.
  - e. Tramp metal, ASTM F2075: Meets criteria.
  - f. Impact Attenuation, ASTM F1292: 12 inches of engineered wood fiber providing a critical fall height of at least 12 feet.
  - g. Accessibility, ASTM F1951: Meets criteria.
  - h. Resistance to flammability, ASTM D2859: Meets criteria.
  - i. Protect Plus+ Certification: Certification for ASTM D2859, F1292, F1951, F2075 and F3351.

#### 2. Fabric: Geotextile Fabric:

- a. Composition: nonwoven filter fabric of staple fibers that is formed into a random network, needle punched and heat-set for dimensional stability.
- b. Size: 5' x 300' roll.
- c. Weight, ASTM D5261: 3.5 ounces per square yard minimum.
- d. Grab Tensile Strength, ASTM D4632: 90 lbs.
- e. Grab Tensile Elongation, ASTM D4632: 50%
- f. CBR Puncture, ASTM D6241: 250 lbs.
- g. UV Resistance, ASTM D4355: 70% @ 500 hrs.
- h. Trapezoidal Tear, ASTM D4533: 40 lbs.
- i. Permittivity, ASTM D4491: 2.00 sec<sup>-1</sup>
- j. Water Flow Rate, ASTM D4491: 145 gpm/sqft
- k. Apparent Opening size, ASTM D4751: 50 US Std Sieve
- 3. Surface Wear Mat: Tuffmat
  - a. Composition: Base: Closed-cell, cross-linked, polyethylene foam with heavy-duty vinyl.
  - b. Recycled content: 10% pre-consumer, 0% post-consumer.
  - c. Dimensions: 36in. x 48in. (Universal size) 88" x 72" (swing bay)
  - d. Weight: Universal = 15lbs, swing bay = 38 lbs.
  - e. Thickness: 1.55 inches.
  - f. Impact Attenuation, ASTM F3351: Surface Wear Mat over 11" of Engineered Wood Fiber passing at a Height of 12 feet.
  - g. Resistance to Flammability, ASTM D2859: Meets Criteria.
  - h. ProtectPlus+ Certification for ASTM D2859 and F3351.