

SECTION 321816.13 - PLAYGROUND PROTECTIVE SURFACING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 00 and Division 01 Specifications Sections, apply to this Section.

1.02 SUMMARY

- A. Section Includes:
 - 1. Engineered wood fiber play surface.
 - 2. Alternate Bid #4 – Rubberized Play Surfacing.

1.03 DEFINITIONS

- A. Definitions in ASTM F 2223 apply to Work of this Section.
- B. Critical Height: Standard measure of shock attenuation according to ASTM F 2223; same as "critical fall height" in ASTM F 1292. According to ASTM F 1292, this approximates "the maximum fall height from which a life-threatening head injury would not be expected to occur."

1.04 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For each type of protective surfacing.
 - 1. Location of wear mats in organic loose-fill surfaces.
- C. Samples for Initial Selection: For each type of exposed finish.
 - 1. Include similar samples of playground surface system and accessories involving color selection.
- D. Samples for Verification: For each type of playground surface system indicated:
 - 1. Minimum 1-quart loose-fill surface sealed in a container.

1.05 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For each type of unitary surfacing product.

- C. Field quality-control reports.
- D. Sample Warranty: For manufacturer's special warranty.

1.06 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For playground protective surfacing to include in maintenance manuals.

1.07 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.08 WARRANTY

- A. Special Warranty: Manufacturer and Installer agree to repair or replace components of protective surfacing that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Reduction in impact attenuation as measured by reduction of critical fall height.
 - b. Deterioration of protective surfacing and other materials beyond normal weathering.
 - 2. Warranty Period: Five years from date of Substantial Completion or installation, whichever is later.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Source Limitations: Obtain protective surfacing materials from single source from single manufacturer.

2.02 PERFORMANCE REQUIREMENTS

- A. Impact Attenuation: Critical fall height tested according to ASTM F 1292.
- B. Accessibility Standard: Minimum surfacing performance according to ASTM F 1951.

2.03 WOOD FIBER PLAY SURFACE AND ACCESSORIES

- A. Engineered Wood Fibers: Random-sized wood fibers, in manufacturer's standard fiber size, approximately 10 times longer than wide; containing no bark, leaves, twigs, or foreign or toxic materials according to ASTM F 2075; graded according to manufacturer's standard

specification for material consistency for playground surfaces and for accessibility according to ASTM F 1951.

1. Available Products:
 - a. GameTime; GT Impax Fiber.
 - b. SofFall Incorporated; SofFall.
 - c. Zeager Bros., Inc.; Wood Carpet
 2. Critical Height: As required for submitted play structures.
 3. Uncompressed Material Depth: Not less than as required for critical height indicated.
- B. Stabilizing Mats: Manufacturer's standard, water-permeable PVC or rubber mats tested for impact attenuation according to ASTM F 1292, and rated for use in the following locations, with anchoring system designed to anchor mat securely to subgrade through engineered wood:
1. Location: At excessive wear areas and as follows:
 - a. Below top of loose-filled surface.
 - b. Under and in front of slide exits.
 - c. At finished grade around transfer stations at accessible perimeter.
 2. Size: 36 x 36 inches.
 3. Color: as selected from manufacturer's full range.

2.04 ALTERNATE BID #4 - POURED IN PLACE RUBBER PLAY SURFACING

- A. Seamless Surface: Dual-density, poured-in-place system with wearing course over impact course. Provide manufacturer's standard thickness for each layer as required for overall thickness indicated, tested for impact attenuation according to ASTM F 1292-04 and for accessibility according to ASTM F 1951-08.
1. Available Products:
 - a. GameTime; GT Impax Poured.
 - b. Safe Guard Surfacing Corp.; Poured in Place.
 - c. SpectraTurf, Inc.; Spectra Pour.
 2. Wearing Course: EPDM rubber particles and polyurethane.
 3. Cushion Course: Formulation of 100% recycled SBR particles and polyurethane, site mixed and applied.
 4. Binder: Weather-resistant, UV-stabilized, flexible, nonhardening, 100 percent solids polyurethane complying with requirements of authorities having jurisdiction for nontoxic and low VOC content.
 5. Overall Thickness: Per equipment height requirements. Not less than indicated.
 6. Primer/Adhesive: Manufacturer's standard primer and weather-resistant, moisture-cured polyurethane adhesive suitable for unit, substrate, and location indicated.
 7. Wearing Course Color(s):
 - a. Color: As indicated on Drawings.

- B. Leveling and Patching Material: Portland cement-based grout or epoxy- or polyurethane-based formulation suitable for exterior use and approved by playground surface system manufacturer.

2.05 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for subgrade elevations, slope, and drainage and for other conditions affecting performance of the Work.
 - 1. Verify that substrates are sound and without high spots, ridges, holes, and depressions.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

2.06 PREPARATION

- A. Prepare substrates to receive surfacing products according to protective surfacing manufacturer's written instructions.

2.07 INSTALLATION OF WOOD FIBER PLAY SURFACE SYSTEMS

- A. Loose Fill: Place playground surface system materials including manufacturer's standard amount of excess material for compacting naturally with time to required depths after Installation of playground equipment support posts and foundations.
- B. Stabilizing Mats: coordinate installation of mats and mat anchoring system with placing of loose-fill.
- C. Compacting and Grading: Uniformly compact and grade loose-fill according to manufacturer's written instructions to an even surface from irregular surface changes as indicated.
- D. Finish grading: Hand rake to a smooth finished surface and to required elevations.

2.08 INSTALLATION OF POURED IN PLACE SURFACING

- A. Mix and apply components of seamless surfacing according to manufacturer's written instructions to produce uniform, monolithic, and impact-attenuating protective surfacing of required overall thickness.
 - 1. Substrate Primer: Apply over prepared substrate at manufacturer's standard spreading rate for type of substrate.
 - 2. Poured Cushioning Layer: Spread evenly over primed substrate to form a uniform layer applied at manufacturer's standard spreading rate in one continuous operation, with a minimum of cold joints.
 - 3. Intercoat Primer: Over cured cushioning layer, apply primer at manufacturer's standard spreading rate.

4. Wearing Layer: Spread over primed base course to form a uniform layer applied at manufacturer's standard spreading rate in one continuous operation and, except where color changes, with no cold joints. Finish surface to produce manufacturer's standard wearing-surface texture.
 - a. Design: Where colored pattern is required, place colored, design material as soon as previously placed material is sufficiently cured, using primer or adhesive if required by manufacturer's written instructions.
5. Lacquer Topcoat: Spray or roller applied at manufacturer's standard coating rate in one continuous operation.
6. Edge Treatment: As indicated on Drawings. Fully adhere edges to substrate with full coverage of substrate. Maintain fully cushioned thickness required to comply with performance requirements.

2.09 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests.
- B. Perform the following tests with the assistance of a factory-authorized service representative:
 1. Perform "Installed Surface Performance Test" according to ASTM F 1292 for each protective surfacing type and thickness in each playground area.
 2. Perform installed-surface-performance tests at no less than one series of tests for each 1000 sq. ft. of each type and thickness of in-place protective surfacing or part thereof.
- C. Playground protective surfacing will be considered defective if it does not pass tests.
- D. Prepare test reports.

END OF SECTION 321816.13

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