

SECTION 029100 – SYNTHETIC TURF

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

1. Provide all labor, materials, equipment, and tools necessary for the complete installation of synthetic grass playground surfacing. Surface shall meet the requirements of ASTM F1292-13, that states that the surface must yield both a peak deceleration of no more than 200 g's and a Head Injury Criteria (HIC) value of no more than 1,000 for a headfirst fall from the accessible height of the play equipment within the fall zone areas.. System must be IPEMA certified and supported by test data that is less than 3 years executed. Test data alone is not considered to be preferred supportive documentation. The system shall consist of, but not necessarily be limited to, the following:
 - a. Synthetic grass consisting of fibers that are 1.25" long. Turf fiber construction consisting of 100% nylon monofilament and texturized nylon thatch tufted to a 2-layer stabilized woven polypropylene fabric (primary backing), with a secondary backing (stitch binder) of punched urethane or approved equal.
 - b. Pad underlayment system consisting of porous closed cell composite materials. Thickness and density of panels shall be sufficient so that system meets the requirements of ASTM F1292-13. (SofPad™)
 - c. Synthetic Grass Infill, consisting of anti-microbial acrylic coated round silica particles, designed to provide the look, feel, and performance of optimally maintained natural grass to be installed in the fall zones. (EnviroFill®)
 - d. 3/4" clean aggregate, 1/2" screenings, compacted 4" deep
 - e. Synthetic grass shall be CPSIA compliant with valid supporting test documents.
 - f. Synthetic grass shall be manufactured exclusively in the USA, finished goods manufactured outside of the USA will be accepted.

1.2 SUBMITTALS

1. Product Data: Submit manufacturer's product data, including installation instructions and subsurface instructions.
2. Samples: Submit samples of synthetic grass, infill, pad underlayment.
3. Warranty: Submit manufacturer's standard 10-year warranty.

PART 2 – PRODUCTS

2.1 SYNTHETIC GRASS SAFETY SURFACE

1. Aggregate Base – 1/2" Screenings, 3/4" Clean Aggregate, Compacted 4" deep (Refer to Section 3.2-3).
2. Synthetic grass: XGrass® Fringe Turf from XGrass, 205 Boring Dr. Dalton, GA 30721, Phone (877) 881-8477
 - a. Face Weight: 54 oz/sy

- b. Pile Height: 1.25"
 - c. Face Yarn Type: Nylon
 - d. Denier: 4200
 - e. Color: Field Green/Clover
 - f. Construction: Broadloom tufted
 - g. Stitch Rate: 8 per 3 inches
 - h. Tufting Gauge: 3/8"
 - i. Primary Backing: 8.0 oz/sy
 - j. Secondary Backing: 20 oz/sy Urethane
 - k. Total Product Weight: 82 oz/sy
 - l. Finished Roll Width: 180" untrimmed
 - m. Warranty: 10 Year UV
 - n. Manufactured in the USA, Internationally manufactured products will not be accepted
3. Pad Underlayment System: SofPad™ (to be utilized in fall zone areas specifically) 100% recycled, non-contaminated, Post industrial cross-link, closed cell Polyethylene – polyolefin foam pad from XGrass.
- a. Foam Type: Polyethylene – Polyolefin
 - b. Bulk Density: 5.0-8.0 lb/cu ft
 - c. Effective Size: 24 sq ft (net coverage)
 - d. Tensile Strength: 34-36 psi
4. Synthetic Grass Infill: EnviroFill® from XGrass, 205 Boring Drive. Dalton, GA 30721, Phone (877) 881-8477. Coating: Priority acrylic with Microban®, iron oxide and chromium oxide.
- a. Grain shape: Round
 - b. Hardness: 6-8 Mohs
 - c. Curvature: 0.7+
 - d. Specific Gravity: 1.76 g/cm³
 - e. Bulk Density: 110 lb/cu ft
 - f. Uniform Coefficient: 1.10 to 1.40
 - g. Effective Size: .84 - 1.68 mm
5. Splicing Material: Red Stripe
6. Adhesive: Turf Claw 75 UP

PART 3 – EXECUTION

3.1 GROUND PREPARATION

1. General: The ground area to receive synthetic grass safety surface is indicated on the Drawings.
2. Leveling and Site Preparation: All organic material and organic debris to be removed.

Soil to be graded level and stabilized (compacted) 6 " below grade, per site requirements. Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers.

3.2 BASE AND SYNTHETIC GRASS CONSTRUCTION

1. General: The area to be smooth and graded to allow for proper drainage. Refer to engineered grading plan if available. The overall grade of the playground is not to exceed 3%.
2. Nailer Board: Installation of pressure treated or composite board per site requirements.
 - a. Concrete edges: Nailer board attached directly to vertical concrete edge with Tapcon hardware positioned 3/4" below concrete grade.
 - b. Non-concrete edges: Nailer board installed with round, steel stake, 3 per 10' board. Top of nailer boards to be situated 3/4" below grade.
3. Compacted Aggregate Base: Place 4" of 3/4" clean aggregate base and 1/2" of screening as leveling layer compacted to 90% of max density per AASHTO T99. Compaction shall be done with mechanical compactors, including vibratory compactors, and/or powered tampers, and rollers.
4. Underlayment Pad: Lay underlayment pad with seam staggered, trimming edge to fit flush against the nailer board. Sofplay pad to be installed in areas requiring fall height attenuation specific to the fall height requirements and correlating to the IPEMA certification.
5. Synthetic Grass: Place turf and cut to fit configuration as shown on Drawings. Splice seams. All seams must be attached with splicing film/fabric and adhesive as approved by the manufacturer for this type of installation of their product.
6. Anchoring/Edging: Edges of turf will be secured to nailer board perimeter.
7. Infill: Apply layers of synthetic grass infill evenly with a drop spreader and broom the turf fibers with stiff bristle broom to stand fibers up and allow infill to settle into the bottom. Broom in infill at the rate of 3 pounds per square foot.

PART 4 – WARRANTY

4.1 WARRANTY

1. Please refer to the current XGrass warranty for details.

END OF SECTION 029100