

**SECTION 32 18 16.3 PLAYGROUND GRASS RESILIENT SURFACING:
Playground Grass EnduraZone - High Traffic Insert**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of this contract, including general and supplementary conditions and other division 1 specification sections apply to this section.

1.2 DESCRIPTION OF WORK

- A. Playground Grass EnduraZone - High Traffic Insert for surfaces under and around playground equipment including but not limited to the furnishing and installing of an artificial grass safety surface over a compacted base. Playground Grass EnduraZone High Traffic Inserts are ideal for use at the base of slides, around spinners, and under swings. Finished products shall be seamed to provide a resilient, continuous surface over the entirety of the project surface. Work includes all labor, materials, tools, equipment, and applicable taxes to perform all work and services for the installation of the surface.

1.3 REFERENCE SPECIFICATIONS AND STANDARDS

- A. Materials and methods of construction shall comply with the latest provisions of the following standards:
 - I. ASTM F 1292-04: “Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment”.
 - II. ASTM D2859: “Flammability Standard”.
 - III. ASTM F1951-99: “Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.”
 - IV. ASTM D7968: Standard Test Method for Determination of Polyfluorinated (PFAS) Compounds in Soil by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

1.4 SUBMITTALS

No alternate product must be submitted without prior approval packages a minimum of ten (10) days prior to bid date. Submittal packages shall include but not be limited to:

- A. Laboratory Test Reports: Materials certificates certifying each material item complies with, or exceeds, specified requirements. Certificates of compliance must be signed by materials producer and contractor.
- B. Product Verification: Delivery slip for each material shipment, including turf and infill material.
- C. Warranties: Product and maintenance warranties must be provided to owner prior to installation.
- D. Field test inspection reports and samples for material including Impact Attenuation, and Flammability.
- E. Playground Grass Surface Installer Qualifications: A list of ten (10) playground surfacing projects completed with a similar product within the last five (5) years. List shall include names of project representatives and respective telephone numbers. This list shall also contain projects which require the same level of difficulty, e.g., number of poles and cutouts, transitions, and other special requirements. These ten (10) projects shall have been contracted and installed by the company bidding the job.

- F. Product Substitution Submittals: Contractor shall provide the following material for Playground Grass material substitution.
- I. At least one project in excess of 5,000 square feet and completed in the two (2) years.
 - II. Two 1'x1' product samples.
 - III. Product warranty and guarantee from manufacturer warranting against all defects for a five (5) year period.
 - IV. A written guarantee from manufacturer for workmanship.
 - V. Impact attenuation (per fall height requirements) and flammability test results from independent approved and certified testing laboratories.
 - VI. The artificial grass installer/contractor will provide a maintenance procedure for the installed surface.

1.5 TESTING OF MATERIALS

- A. The following are test results from an independent testing laboratory which must also be submitted:
- I. Impact Attenuation: ASTM 1292-04: Impact attenuation test results will be provided. These test results shall be certified and submitted on the letterhead of an independent testing lab. Impact attenuation test results shall meet or exceed Consumer Product Safety Commission Guidelines for impact attenuation (G-max and Head Injury Criterion "H.I.C."). Test results must be administered and evaluated under the same test and these results must be shown for three drops at each required temperature: 32°, 72°, 120°; yield less than 200 G's and less than 1,000 H.I.C. Only test results from ASTM testing approved laboratories, F8 committee will be acceptable. Approved testing laboratories are TSI and Detroit Testing.
 - II. Flammability (PILL test)
NOTE: To assure compliance with a, b, and c installation shall be provided by an approved installer, who has at least five successful installs.
 - III. PFAS Within Specified Limits: ASTM D7968: Standard Test Method for Determination of Polyfluorinated (PFAS) Compounds in Soil by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS)

1.6 WORKMANSHIP AND QUALITY ASSURANCE

- A. The artificial grass is to be installed per manufacturer's specifications.
- B. All artificial grass and components shall be provided by a single source.

1.7 DELIVERY AND STORAGE OF MATERIALS

- A. Artificial grass will be delivered in rolls 6' or 12' wide. SafetyFoam Pro™ will be delivered on pallets in a separate shipment.
- B. Products will be stored out of sight (as much as possible) and secured to prevent tampering.

1.8 GUARANTEE/WARRANTY OF THE MATERIAL AND WORKMANSHIP

- A. The artificial grass installed under this contract will be warranted for a period of five (5) years for materials and covers the surface for wear through, deterioration and excessive fading/ UV degradation. Vandalism and force majeure will not be covered. Written warranty must be submitted by the installer.
- B. When defective material or workmanship is discovered which will require repair or replacement, all such repair work or replacement work shall be done by the contractor at its own expense after written notification is given of such required repairs. However, if the contractor fails to comply with the requirements of the above guarantee within reasonable time after notification is given, the repairs will be made by others at the contractor's expense.
 - I. Any unsafe conditions that arise shall be secured and maintained by the installer until all required repairs or replacements have been completed.
 - II. All resurfacing will conform in kind and quality to the specifications set forth in the plans and specifications and will be free of defects in workmanship and material.

PART 2 - PRODUCTS

2.1 DESCRIPTION OF SYSTEM

Resilient safety surface shall be Playground Grass EnduraZone as manufactured by ForeverLawn Inc. Resilient safety surface shall meet all of the following requirements independently and collectively:

- A. Playground Grass EnduraZone
 - Pile Weight: 120 oz./sy.
 - Face Yarn Type: Heat set textured diamond nylon monofilament
 - Yarn Count: 7000/8
 - Pile Height (tufted): 1 in. (finish height may be slightly lower)
 - Color: Turf Green
 - Construction: Single yarn
 - Tufting Gauge: 3/16 in.
 - Backing: Unitary backing
 - Total Product Weight: 147 oz. /sy. (+/- 2%)
 - Finished Roll Width: 15 ft. (4.6 m)
 - Finished Roll Length: Up to 240 ft. (73 m)
- I. The synthetic grass shall be delivered in 6-foot or 12-foot wide rolls. The rolls will be laid out and installed as specified in the site layout and equipment placement drawings.
- II. All seams shall be installed and secured with turf adhesive.
- III. Resilient subsurface padding: SafetyFoam Pro pad which is a closed cell expanded polypropylene panel.
- IV. Recommended infill amount is not to exceed 1-2 lbs. of 30-50 mesh rounded silica sand per square foot (if specified).

PART 3 - EXECUTION

3.1 BASE REQUIREMENTS

- A. The synthetic grass base contractor shall strictly adhere to the installation procedures outlined under this section and by the engineer's drawings. Any variance from these requirements must be accepted in writing, by the synthetic grass vendor, and submitted to the owner or owner's representative, verifying that the changes do not adversely affect the performance or warranty.
- B. Playground Grass EnduraZone Base System: Should consist of approved Playground Grass by ForeverLawn stone base and safety systems.
- C. Playground Grass Systems *with* SafetyFoam Pro: The base shall be angular 3/4" clean stone, leveled and compacted at a depth of 3" to 4".
- D. Playground Grass Systems *without* SafetyFoam Pro: The base shall be angular 3/4" clean stone, leveled and compacted at a depth of 3" with a cap of 3/8" clean stone at a depth of 1".

3.2 INSTALLATION

- A. Synthetic grass rolls shall be joined via approved seaming methods determined by the manufacturer.
 - i. Playground Grass EnduraZone's primary use is for high traffic areas such as, but not limited to, ends of slides, under swings, around spinning equipment, etc.
 - ii. Seams shall be flat, tight, and permanent with no separation or fraying.
 - iii. Seams shall be rolled with weighted roller to ensure adhesion.
 - iv. Synthetic turf yarn fabric that is trapped or glued between seams shall be freed from the seams by hand or other approved method to an upright position prior to the commencement of brushing and top dressing synthetic grass rolls by the manufacturer wherever possible.
- B. Synthetic Turf Perimeter Attachment:
 - i. Playground Grass EnduraZone shall be attached to surrounding Playground Grass using fiber seam tape and troweled glue in high traffic areas of the playground.
- C. SafetyFoam Pro resilient subsurface padding will be laid out in 2'x4' interlocking panels over the base.
- D. Infill Application: After all seaming is completed, the infill materials (if specified) shall be applied evenly and the synthetic turf grass groomed by means of plastic rake or leaf blower.