

POWERBLADE SZ 2.0

ENGINEERED TURF SYSTEMS FOR ALL LEVELS OF PLAY

1.0 GENERAL REQUIREMENTS

1.1 *Related Documents*

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this section.

1.2 *Scope of Work*

Furnish all labor, materials, tools, and equipment necessary to install, in place, all synthetic turf material as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with the Manufacturer's written installation instructions, and in accordance with all approved shop drawings.

- A. Prior to order of materials, the Synthetic Turf Contractor shall submit the following:
 - 1. Product data, including Independent Laboratory Test Results,
 - 2. Installation details,
 - 3. Sample Warranty,
 - 4. Field layout and striping plans,
 - 5. Details on construction, especially any details that may deviate from plans and specifications.
- B. Prior to the beginning of installation, the Synthetic Turf Contractor of the synthetic turf shall verify the base for planarity. Upon written confirmation from the base contractor that compaction/planarity and drainage/permeability specifications have been achieved, the installation of synthetic turf will proceed as arranged.
- C. Prior to Final Acceptance, the Synthetic Turf Contractor shall submit to the Owner three (3) copies of Executed Warranty Documents and Care Card (Maintenance Manuals), which will include necessary instructions for the proper care and preventative maintenance of the synthetic turf system, including painting and striping.

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1.3 Shop Drawings

- A. Shop drawings shall be prepared at the scale of the construction documents and contain all pertinent information regarding installation. These drawings shall be submitted to the Owner or Owner's representative for approval prior to the manufacturing and shipment of materials.
- B. Submit drawings for:
 - 1. Installation details, edge detail, goal post detail, other inserts, and covers, etc., as required by contract.
 - 2. Striping plan showing any field lines, markings and boundaries, and field logos per project drawings.

1.4 Quality Assurance

- A. Synthetic Turf Contractor's Experience:
 - 1. The Synthetic Turf Contractor shall have the experience of at least one hundred (100) acceptable installations of full-size football or soccer fields (minimum 70,000 sq. ft.) in the United States within the past two (2) years of tufted, polyethylene, grass-like fabrics that are filled with either all rubber or a mixture of SBR rubber and sand. Submit a list of all applicable installations with the bid.
 - 2. The Synthetic Turf Contractor shall have the experience (if applicable to this project specification) of fifty (50) installations with sewn main fabric seams.
 - 3. The Synthetic Turf Contractor must be a certified member of the Synthetic Turf Council.
- B. The system shall be tufted on a 1/2" gauge at a stitch rate of approximately 9 stitches per 3 inches (8/3). The pile height shall be approximately 2 inches.
- C. The Primary Backing shall consist of two layers of woven fabric and one layer of non-woven fabric (Triback)

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- D. The Secondary Backing of high-grade polyurethane shall be applied to the Primary Backing at 26 oz/yd². Secondary Backing adds resistance to water degradation and strengthens grip on fibers.
- E. The entire backing shall be coated with holes perforated throughout the backing at the Synthetic Turf Manufacturer's recommended interval to allow for drainage. Partially coated backings or latex coating materials shall not be acceptable.
- F. Warranty: The Synthetic Turf Contractor shall submit it Manufacturer's Warranty, which guarantees the usability and playability of the synthetic turf system for its intended uses for an eight (8) year period commencing with the date of Substantial Completion.
 - 1. The warranty submitted must have the following characteristics:
 - a) Must provide full-field coverage for eight (8) years from date of Substantial Completion,
 - b) Must warrant materials and workmanship,
 - c) Must warrant that the materials installed meet or exceed the product specifications within manufacturing tolerances,
 - d) Must have a provision to either repair or replace such portion of the installed materials that are no longer serviceable to maintain a serviceable and playable surface,
 - e) Must be a Manufacturer's warranty from a single source covering workmanship and all self-manufactured or procured materials,
 - f) Must not be limited to the amount of annual usage.

1.5 Existing Conditions

- A. If the surface on which the new synthetic turf is to be installed is an existing asphaltic/concrete base, the Synthetic Turf Contractor will be responsible for any damage due to negligence to the concrete during removal/installation of the synthetic turf system provided there are no failures below the surface which contribute to the damage. The football goal posts, if any, are to be removed and

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reinstalled by the Owner or Prime Contractor to facilitate the installation of the new synthetic turf system.

- B. If the surface on which the new synthetic turf to be installed is a new asphaltic/concrete base or a new base of compacted, porous aggregate, the Synthetic Turf Contractor will be responsible for any damage to the base during removal/installation of the synthetic turf system after the deficiencies (if any) have been corrected by the base contractor with respect to planarity, compaction, and drainage/permeability. New football goal posts (if any) and/or infield dirt mix backfill within the contiguous synthetic turf limits or immediately adjacent thereto are not to be installed by the Owner or Prime Contractor until after the new synthetic turf system has been completed. Damage to the synthetic turf system during the installation of such materials is not the responsibility of the Synthetic Turf Contractor.

1.6 Schedule

- A. The Synthetic Turf Contractor shall complete all work on the synthetic turf system in accordance with the published project schedule, or as mutually agreed upon.
- B. The Synthetic Turf Contractor will require unencumbered use of an area within thirty (30) feet of the synthetic turf area(s) being installed in order to complete his work. The Synthetic Turf Contractor shall also be afforded unencumbered access through the construction site to reach the synthetic turf field area being installed.

1.7 Surface Area

- A. The Synthetic Turf Contractor is to verify all measurements.

1.8 Utilities

- A. Owner or Prime Contractor will supply necessary water, adequate lighting, and electricity for installation. Owner or Prime Contractor shall permit use of toilet and wash up facilities.

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2.0 PRODUCTS

2.1 Materials

- A. The turf fiber shall consist of a dual yarn system. The grass yarn shall be dual color monofilament polyethylene (spinnerette extruded monofilaments- mix of Field Green (three ends) and Lime Green (three ends)). The Spike Zone yarn shall consist of a multifilament of texturized monofilaments. The multifilament grass fibers shall be tufted in a grass-like fabric to a finished pile height of approximately 2" and coated with a secondary backing of high-grade polyurethane. The synthetic turf fabric shall be filled with 70% ambient rubber and 30% rounded silica sand.
- B. All components and their installation method shall be designed and manufactured for use on outdoor athletic fields. The materials as hereinafter specified should be able to withstand full climatic exposure in all climates, be resistant to insect infestation, rot, fungus, mildew, ultraviolet light and heat degradation, and shall have the basic characteristics of flow-through drainage, allowing free movement of surface runoff through the synthetic turf fabric where such water may flow to the existing base and into the field drainage system.
- C. The finished playing surface shall appear as mowed grass with no irregularities and shall afford excellent traction for conventional athletic shoes of all types. The finished surface shall resist abrasion and cutting from normal use. The system shall be suitable for football, field hockey, soccer, lacrosse, baseball, softball, PE classes, intramurals, and recreational use.
- D. The polyethylene multifilament pile yarn shall be a proven athletic caliber yarn designed specifically for outdoor use and stabilized to resist the effect of ultraviolet degradation, heat, foot traffic, water, and airborne pollutants. The pile fiber shall possess the following physical characteristics:

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	PowerBlade® SZ 2.0	METHOD
Yarn Denier	15,200 ± 750	ASTM D 1577
PE Yarn Thickness/Width	240 ± 20 microns	ASTM D 3218
Breaking Load	>30 lbf	ASTM D 2256
Total Fiber Weight	56 oz/yd ²	ASTM D 5848

E. The Pile fabric shall possess the following physical characteristics:

	PowerBlade® SZ 2.0	METHOD
Finished Pile Height	2" (51mm) ± 2mm	ASTM D 5823
Product Weight (total)	90.6 ± 4 oz/yd ²	ASTM D 5848
Primary Backings	8.6 ± 1.5 oz/yd ²	ASTM D 5848
Secondary Coating (polyurethane)	26 ± 3 oz/yd ²	ASTM D 5848
Fabric Width	15'	ASTM D 5793
Tuft Gauge	1/2"	ASTM D 5793
Grab Tear Strength	> 200 lbf	ASTM D 5034
Tuft Bind Strength	>8 lbf	ASTM D 1335

F. Impregnated (Infill) Layer will be 70% ambiently processed SBR rubber and 30% rounded silica sand.

G. Perimeter edge details, underground storm sewer piping and connections, and goal post foundations required for the system shall be as detailed and recommended by the Design Professional, and as approved by the Owner. The cost for these embedded items shall be included in the Sitework Contractor's price along with the compacted, porous base.

H. Approved product: PowerBlade® SZ 2.0 manufactured and installed by Shaw Sportexe: 1-866-703-4004.

3.0 EXECUTION

3.1 General

A. The installation shall be performed in full compliance with approved shop drawings.

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- B. Only factory-trained technicians skilled in the installation of athletic caliber synthetic turf systems shall undertake the placement of the system.
- C. Subject to the requirements in Section 1.2(B), the surface to receive the synthetic turf shall be verified by the Synthetic Turf Contractor as ready for the installation of the synthetic turf system and must be perfectly clean as installation commences and shall be maintained in that condition throughout the process.

3.2 Removal (if necessary)

- A. Synthetic Turf Contractor shall remove the existing synthetic turf and under-pad from the field (as required by contract).
- B. After removal of the stadium surface, the existing synthetic turf and pad materials shall be rolled up and placed at a location designated by the Owner.

3.3 Installation

- A. The completed base and adjacent curbs/perimeter nailer shall be inspected by the Engineer or Sitework Contractor by means of a laser and plotted on a 10-foot grid. Based upon the Contractor's inspection of the topographical survey, the Sitework Contractor shall fine grade the base suitably, including properly rolling and compacting the base to achieve a surface planarity within $\frac{1}{4}$ " in 10-feet (+0, -1/4"). OWNER, ENGINEER, OR PRIME CONTRACTOR SHALL NOT APPROVE THE BASE FOR TOLERANCE TO GRADE WITHOUT OBTAINING THE TOPOGRAPHICAL SURVEY.
- B. Subgrade and base shall be uniformly compacted to a minimum of 95% of maximum dry density. Care must be exercised to minimize segregation. Engineer/Sitework Contractor shall make written records available to Synthetic Turf Contractor's inspector for both drainage/permeability and compaction/planarity as obtained from a minimum 10' x 10' grid.

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- C. The Synthetic Turf Project Superintendent shall thoroughly inspect all synthetic turf materials delivered to the site for quantity to assure that the entire installation shall have sufficient material to maintain proper mixing ratios.
- D. Synthetic turf shall be loose-laid across the field, stretched, and attached to the perimeter edge detail. Synthetic turf shall be of sufficient length to permit full cross-field installation. No head or cross seams will be allowed except as needed for inlaid fabric striping or to accommodate programmed cut-outs.
- E. All seams shall be flat, tight, and permanent with no separation or fraying. Field seams shall be sewn using double-lock stitch with cord recommended by the Synthetic Turf Manufacturer. Field seams will also be glued (if applicable) to seaming tape. Seaming tape is to be constructed of high tenacity, coated non-woven fabric. Inlaid markings shall be adhered to seaming tape with a high strength polyurethane adhesive applied per the Synthetic Turf Manufacturer's standard procedures for outdoor applications. All main fabric seams shall be transverse to the field direction (i.e. run perpendicularly across the field).
- F. Infill materials shall be properly applied in numerous lifts using special broadcasting equipment to produce a system of recycled SBR rubber particles. The synthetic turf shall be raked and brushed properly as the mixture is applied. The infill material shall be installed to a settled depth of approximately 1-3/8 inches. The infill materials can only be applied when the synthetic turf fabric is dry.

3.4 Field Markings and Decorations

- A. Field markings and decorations shall be installed in accordance with approved project shop drawings.

3.5 Clean Up

- A. Synthetic Turf Contractor shall provide the labor, supplies, and equipment, as necessary, for final cleaning of the surfaces

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- B. The Synthetic Turf Contractor shall keep the area clean and clear of debris throughout the project.
- C. Surfaces, recesses, enclosures, etc., shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by Owner.