



**SYSTEM SPECIFICATION**

**Product: ProGrass Blend**

**Infill Type: Sand and Rubber**

**30% Sand 70% Rubber**



## **1.0 SCOPE OF WORK**

It shall be the responsibility of the successful turf contractor to provide all labor, materials, equipment and tools necessary for the complete installation of a synthetic turf system, with a specially formulated resilient infill component and a porous vertical drainage stone base. The tufted infill system and the porous vertical drainage system shall consist of, but not necessarily be limited to, the following:

1.1 A vertical draining field base consisting of a compacted, 6” layer of Open Graded Stone (OGS) with an under-drain system installed above a permeable geo-textile membrane. The end of the drains are day lighted directly into the perimeter trench system containing a 12” perforated pipe covered with free draining stone that discharges into a designated storm water outlet.

1.2 A complete synthetic grass system, consisting of a nominal 2.125 inch long, 100% polyethylene fiber blend, comprised of 50% monofilament (6 ply monofilament) and 50% parallel slit film tufted into a double layered primary backing and coated with a urethane secondary backing. The turf backing will be perforated to ensure positive drainage.

1.3 A homogeneous infill mixture of 30% silica sand and 70% SBR ambient ground rubber materials by weight, specifically designed to provide the feel, performance, and safety of an optimally maintained natural surface. The finished surface shall have the planarity and subtle undulations normally associated with typical natural grass athletic fields.

## **2.0 QUALIFICATIONS AND SUBMITTALS**

Prospective bidders and/or turf contractors shall be required to comply with the following:

2.1 It is the owners desire to ensure both quality materials and installation. Therefore all prospective bidders must be qualified as a Certified Member of the Synthetic Turf Council for at least three years. (STC, 400 Galleria Parkway Suite 1500, Atlanta, GA 30339)

2.1.1 All bidders and/or turf contractors must have operated under the same ownership and actively installing synthetic turf infill systems for a minimum of eight years and have at least 300 infill synthetic turf system installations of 65,000 square feet each actively being utilized.

2.1.2 All bidders and/or turf contractors must directly employ the installers of the synthetic turf and infill systems for a minimum of five years. Subcontractors shall NOT be acceptable for the synthetic turf infill system installation.

2.1.3 All bidders and/or turf contractors shall further demonstrate that they meet the minimum eight year experience requirement by submitting in writing the project names, the total square footage, contacts and telephone numbers of at least ten installations, where the bidders have installed the synthetic turf infill system over the last seven years.

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2.2 All designs, markings and materials shall conform to all currently applicable NFHS or NCAA rules and other standards that may apply to this type of synthetic turf installation.

2.3 The bidder shall provide evidence of a bonding capacity of no less than 20 million dollars from a licensed best-rated surety.

2.4 All prospective bidders shall include a sample manufacturer's warranty with their bid.

2.4.1 All prospective bidders must provide a Third Party Warranty insurance certificate issued in the name of the turf contractor, covering both manufactured material and installation.

2.5 Ensuring the highest quality of manufactured synthetic turf, all prospective bidders must manufacture synthetic turf system using a Certified FIFA Preferred & Certified ISO 9001 manufacturer. They must also provide the ISO 9001 certificate.

2.6 All prospective bidders and/or turf contractors must have available Certified Professional Maintenance Program provided by turf provider. THIRD PARTY MAINTENANCE PROGRAMS ARE NOT PERMITTED.

2.7 All prospective bidders and/or turf contractors must submit written compliance with section 2.0 QUALIFICATIONS AND SUBMITTALS, to the design professional or the owner's designated representative 10 days in advance of the bid opening. Additionally, all bidders must submit for approval both a 12-inch by 12-inch rag and a 12-inch by 12-inch in-filled sample, detailed specifications, and a complete material testing of the synthetic turf to be used on this project. The design professional or the owner's representative will notify all prospective bidders in writing of specification and product approval, prior to the bid opening.

### **3.0 WARRANTY**

The turf installer and/or manufacturer must provide the following:

3.1 The turf manufacturer's warranty that covers defects in material and workmanship of the turf for a period of eight (8) years from the date of Substantial Completion.

3.2 The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism and acts of God beyond the control of the owner or manufacturer.

3.3 The manufacturer's warranty shall be limited to repair or replacement of the affected areas, at the option of the manufacturer, and shall include all the necessary materials, labor, transportation cost, etc. to complete said repairs.

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3.4 All prospective bidders must provide a Third Party Warranty insurance certificate issued in the name of the turf contractor, covering both manufactured material and installation for eight (8) years. The Warranty must be supported by a prepaid, zero deductible, non-cancelable insurance policy for the full eight (8) year period.

3.4.1 The Aggregate is 15,000,000 Dollars and each warranty is 5,000,000 Dollars, which means your projects are covered 100% on the turf portion of the project. Financial strength: A.M. Best "A" (excellent) rated. Prepaid and non-cancelable for the life of the warranty. Never a deductible or retentions for the warranty holder. Letters of Credit (LOC) are not acceptable.

3.4.2 Policies that include self-insurance or self-retention clauses shall not be considered. Policy must be valid and in force at time of bid.

3.4.3 Pre-paid 8 year third party policy must be issued by a carrier with a minimum A.M. Best rating of "Excellent" or "A".

#### **4.0 VERTICAL DRAINAGE AND BASE CONSTRUCTION**

The contractor awarded the base construction is required to provide with the bid the following: The overall base design and the vertical drainage system. The design and materials must be consistent with the following:

4.1 The sub-grade minimum is depending on site conditions from the center line of the field to the rim of the perimeter ditch. The site sub-grade shall be graded to have a level area at the center of the field between the 20-yard lines and slope towards the perimeter drain.

4.2 After the excavation is completed, the sub-base shall be proof rolled or independently tested to insure stability and compaction.

4.3 A non-woven geo-textile membrane shall be placed over the entire sub grade and within the pipe trenches prior to the installation of the base materials to create a positive separation between aggregates and sub grade soils.

4.4 12" collector drain shall be installed around the perimeter of the proposed turf installation. The collector drain shall be connected to adequate drainage outlets. The drainage trenches shall be lined with geo-textile and filled with clean angular drainage stone.

4.5 A 6" strip drain or properly sized under field drain system shall be installed not greater than 25 feet on center, at a 45-degree angle. These under field drains will be placed directly into the perimeter ditch.

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4.6 All material shall be 100% fractured, by mechanical means, with elongated characters on each individual particle. Rounded sands or aggregates are prohibited. Free draining finish aggregates maybe required to achieve proper planarity and stability. Typical aggregate or aggregate blends found acceptable for athletic field construction must conform reasonably to the following gradations:

<b>BASE STONE Target Sieve</b>	<b>Sieve</b>	<b>%Passing By Weight</b>
	1.5"	100
	1"	95 - 100
	3/4"	75 - 90
	1/2"	55 - 75
	3/8"	40 - 70
	1/4"	25 - 60
	# 4	20 - 45
	# 8	10 - 25
	# 16	10 - 20
	# 30	0 - 8
	# 50	0 - 5
	# 100	0 - 4
	# 200	0 - 3

4.7 The turf manufacturer must approve, but not warranty unless drainage base is installed by turf manufacturer, the aggregate base stone prior to installation. The turf manufacturer must verify that the proper gradation, permeability and stability requirements can be met.

4.8 The finished grade of the aggregate base prior to the installation of the synthetic turf shall not vary more than 1/4 inch over 10 feet. It is required that laser grading equipment be used to meet these parameters.

### **5.0 SYNTHETIC TURF MATERIALS**

The synthetic turf material and resilient infill shall be in accordance with the following:

5.1 The fiber shall be 50/50 blend of a 100% polyethylene, low friction, parallel slit film fibers and monofilament fibers, specifically designed to virtually eliminate abrasion. The parallel slit fiber shall have a minimum denier equal to 8,000 and the monofilament should have a minimum denier of 12,000 and a micron of 300. The blend of fibers shall measure a nominal 2.125 inches and be treated with UV inhibitors. Fiber shall be tufted by alternating rows.

5.1.1 The parallel slit film fiber must be equal to ProGrass Infinity fiber qualifications.

5.1.2 Monofilament fiber must be equal to ProGrass GameTurf spined monofilament. Acceptable monofilament fiber shape is a base with a center core. RECTANGULAR, ELIPTICAL, C-SHAPED OR FLAT MONOFILAMENT FIBERS WILL NOT BE ACCEPTABLE AS EQUAL.

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5.2 The tufted fiber face weight shall be no less than 40 ounces per square yard.

5.3 The turf's primary backing shall be a layered polypropylene fabric treated with UV inhibitors. The secondary backing shall consist of an application of a minimum of 20 oz. per square yard of heat-activated urethane to permanently lock the fiber tufts in place, with a minimum tuft bind of 8 pounds. The carpet shall be perforated to promote maximum drainage. CARPETS WITHOUT PERFORATIONS, THATCH ZONES AND ROOT ZONES WILL NOT BE ACCEPTABLE.

5.4 The turf shall be delivered in 15-foot wide rolls. The rolls shall be of sufficient length to go from sideline to sideline.

5.5 The infill shall consist of specifically a homogeneous mixture of 30% silica sand and 70% SBR ambient ground rubber by weight. The depth of the infill material shall be no less than 75% of the nominal fiber height at installation. SYSTEMS WITH SHOCK PAD ENHANCEMENTS WILL NOT BE ACCEPTED AS EQUAL.

5.6 All field markings including numbers, arrows, hash marks, sports specific lines or other designations will either be tufted in at the factory or inlaid. Painted markings with multiple applications of a suitable paint approved by the turf manufacturer at owners request.

## **6.0 INSTALLATION AND EXECUTION**

The turf contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the manufacturer's representative, and submitted to the architect/owner, verifying that the changes do not in any way affect the warranty.

6.1 If the synthetic turf installation and the OGS stone base installation are separate contractors, the synthetic turf contractor reserves the right to reject both planarity and stability of the OGS stone base.

6.2 The turf rolls are to be installed directly over the properly prepared aggregate base. Extreme care should be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity. A static roller is to be on site and available to repair and properly compact any disturbed areas of the aggregate base.

6.3 The full width rolls shall be laid out across the playing field. Utilizing state of the art sewing or gluing procedures, each turf panel shall be attached to the next forming the fabric of the field. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing field.

6.4 Turf-Set 73 brand hot melt adhesive will be applied for attachment of turf when mechanically sewn seams are not feasible. This applies to the installation of any inlaid lines such as, but not

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limited to the following: hash marks, numbers, directional arrows, individual yard marks, end zone lettering and logos. Turf-Set 73 is a light color, low odor pressure sensitive adhesive.

6.5 The homogeneous infill mixture of 30% silica sand and 70% SBR ambient ground rubber material by weight, shall be spread evenly with a top dresser (minimum 5 foot wide) or broadcast spreaders in multiple lifts. During application, the infill area shall be brushed with a motorized rotary brush, to ensure uniformity and maximum fiber visibility. SINGLE PASS MACHINES/TECHNIQUES ARE NOT PERMITTED.

6.6 At completion of the infill, the entire surface shall be thoroughly brushed with a nylon rotary brush until the fiber simulates natural grass. NO STEEL BRUSHES PERMITTED.

#### **7.0 PROJECT CLOSEOUT AND MAINTENANCE**

The turf installer and/or the turf manufacturer must provide the following:

- 7.1 A grooming attachment to be pulled by the owner's equipment.
- 7.2 An executed copy of the turf manufacturer's warranty.
- 7.3 Manufacturer's written maintenance manual.

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#### **PROGRASS BLEND**

Pile Yarn Type: 100% UV stabilized polyethylene

Blade Type: Infinity 50% BONAR YARNS FB ULTRA / GameTurf 50% BONAR YARNS MN ULTRA

#### **CARPET CHARACTERISTICS**

ASTM D5823 - Pile Height: nominal 2.125 inches

ASTM D5848 - Pile Weight: 40 oz/sq yd

ASTM D5848 - Primary Backing Weight: double layer, min 7.7 oz. /sq. yd.

ASTM D5848 - Secondary Backing Weight: min 20 oz. /sq. yd.

ASTM D5793 - Stitch Gauge: 1/2"

ASTM D5793 - Stitches per Inch: min 3 spi

ASTM D1335 - Tuft Bind (w/o infill): min 8 lbs.

ASTM D5034-05 - Grab Tear, width: > 250 lbs./force

ASTM D5034-05 - Grab Tear, length: > 300 lbs./force

ASTM D4491 - Carpet Permeability: 40 inches/hour

#### **SYSTEM CHARACTERISTICS**

Infill Material: Sand and Rubber

Infill Material Mixture: A homogenous mixture of 30% silica sand and 70% SBR ambient ground rubber by weight.

ASTM F1015 - Abrasive Index: 14

ASTM D2859 - Pill Burn Test: Passes with Infill

ASTM F1551-03 - Permeability: min 20 inches/hour

ASTM F355-01- G-Max, at Installation: < 135

ASTM F355-01- G-Max, over Warranty: < 175

MAUFACTURED ROLLS FIFA Preferred & ISO 9001

Warranty 8 years plus 3rd party insurance

#### **ProGrass, LLC**

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[www.prograssturf.com](http://www.prograssturf.com)

## YARN CHARACTERISTICS

ProGrass fiber:	Infinity
Bonar Yarns	FB Ultra
Product Type:	Fibrillated
Polymer:	Polyethylene
Product Code:	22/02
Nominal Detex:	8800
Colour:	Sports Green
No. of Fibrils:	8
Fibril Width:	1.5mm
Tape Width:	8.5 mm
Tape Thickness:	110 micron
Texturizing: -	
Twist:	30 z
Tensile Strength:	120 N
Shrinkage (at 90 degrees C):	6.5%
ProGrass fiber:	GameTurf
Bonar Yarns	MN Ultra
Product Type:	Monofilament
Polymer:	Polyethylene
Product Code:	29/161
Nominal Detex:	12000
Colour:	Sports Green, Olive Green or Bright Green
No. of Filaments:	6
Fibril Width:	1.5mm
Tape Thickness:	300 micron
Texturizing: -	
Twist:	30 z
Tensile Strength:	80 N
Shrinkage (at 90 degrees C):	8%

