

ESUCC  
Coop Committee Meeting  
Tuesday, April 3, 2018, 11:00 AM  
ESU No. 3, 6949 South 110th Street, Omaha, NE 68128

Attendance Taken at 11:02 AM.

Bell ESU 10:	Absent
Dr Kraig Lofquist:	Present
Mowinkel ESU 08:	Present
Shoemake ESU 06:	Absent
Gregg Robke (ESU 04):	Absent
Paul Calvert (ESU 15):	Present
Deb Paulman (ESU 16):	Absent

1. Call to Order

2. Roll Call

3. Agenda Item

3.1. Consent Items

3.1.1. Approve AEPA extension with Astro Turf

3.1.2. Approve Special Buy contract with Securly Inc.

3.1.3. Approve Special Buy contract with BetterLesson

3.2. Program Updates

3.2.1. Annual/Paper Buy

3.2.2. Specials Buys

3.2.3. AEPA

3.3. Future Efforts

3.3.1. Yearly Sales Comparison

3.3.2. Coop Advisory Meeting - April 27th

3.3.3. Coop Strategic Plan

4. Next Meeting Agenda Items

5. Executive Session

6. Adjournment

{{Name: Agenda Item Name}}

{{Discussion: Agenda Item Discussion}}

{{Comments: Agenda Item Comments}}

{{Actions: Agenda Item Actions}}

**EXTENSION OF AGREEMENT  
AEPA BID #016**

Contract EXTENSION AGREEMENT made by and between

**Astro Turf Corporation (Vendor)  
Synthetic Turf**

and

**ESU Coordinating Council, NE (Member)**

The existing Agreement was initially awarded through February 28, 2017 for a 12-month term. The Term of Contract and Extension in the AEPA Bid provides the Agreement may be extended for three (3) additional 12-month periods by mutual written agreement through February 28, 2020. **AEPA has approved this extension and now the Member and the Vendor desire to extend the Agreement for an additional term to commence February 28, 2018.** Upon the signatures of an authorized officer of the Member and the Vendor, the Agreement is hereby extended.

This extension shall be subject to the same Terms and Conditions as contained in the original AEPA Bid, and subject to the Bylaws, Policies and Procedures of AEPA in addition to the Member Terms and Conditions.

**Member**

Authorized Signature \_\_\_\_\_ Title \_\_\_\_\_

Printed Name \_\_\_\_\_ Date \_\_\_\_\_

**Vendor**

Authorized Signature \_\_\_\_\_ Title \_\_\_\_\_

Printed Name \_\_\_\_\_ Date \_\_\_\_\_

The Vendor agrees to provide complete information of any deleted and new products or prices as allowed under headings (Discontinued Products) and (New Technology and Price Reduction) of the AEPA Bid.

If you as the Vendor do not want to extend contract, please sign below.

**Discontinue: We desire to discontinue the contract, effective February 28.**

Authorized Signature \_\_\_\_\_ Title \_\_\_\_\_

Printed Name \_\_\_\_\_ Date \_\_\_\_\_

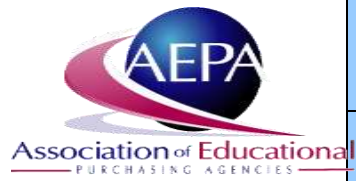
NOTE: This agreement must be received by the Member on or before January 30, 2018.

## Tabs for Line Item Pricing Bid

**G.1 Bas Bid Pricing REQUIRED**

**G.2 State Price Multiplier REQUIRED**

**G.3 Volume Discounts OPTIONAL**



**Form G.1 – Base Bid Pricing**

**AEPA IFB #016 - G - Athletic Surfaces – Synthetic Turf**

**Bidding Company Name:** *ProGrass, LLC*

**Note: Bidder to provide pricing for all synthetic turf products and services that meet the bid specifications.**

**Form G.1 is a REQUIRED FORM**

**Instructions to Bidders**

Specifications identified in Part B – Specifications, Section 7, refer to the type and quality of products and services for Bidder must identify how shipping charges are applied if not included in the Base Bid price.

<b>Description of Cost Factors</b>	<b>Unit of Measure</b>	<b>Bid Price</b>
Performance and payment bond - bonding rate (percent of project)	Percent	1.50%
Bonding capacity - total amount of capacity available	Dollar Amount	\$60,000,000
AEPA Discounts offered on individual manufacturer's published price lists/catalogs.	Percent	3%
Alternative Methods of Costing - Percent of Overhead and Profit added to the cost.	Percent	n/a
Rate of Discounts offered off Alternative Costing Methods (cost + profit & overhead)	Percent	n/a
R.S. Means Multiplier/Factor for State Wage Rates Projects - Normal Working Hours (Defined as 7:00 a.m. to 5:00 p.m. Mondays-Fridays)	Percent	97%
R.S. Means Multiplier/Factor for Non-State Wage Rates Projects - Normal Working Hours (Defined as 7:00 a.m. to 5:00 p.m. Mondays-Fridays)	Percent	99%
R.S. Means Multiplier/Factor for State Wage Rates Projects - Outside Normal Working Hours (Defined as Weekends and after 5:00 p.m. Mondays-Fridays)	Percent	150%



8-Year Insured Warranty, Full Replacement, Non-Prorated, 3rd Party Insured, Prepaid	Each			
8-Year Maintenance Program	Per Year			
8-Year Maintenance Program (with Equipment)	Per Year			
G-Max Test	Per Field			
<b>Infill Granules must be clean and metal free (Add lines items as needed below)</b>				
<b>Product Description</b>	<b>Unit of Measure</b>	<b>List Price</b>	<b>Bid Discount Percentage</b>	<b>Bid Price (List Price - Bid Discount Percentage)</b>
EPDM (Ethylene Propylene Diene Monomer) is a polymer elastomer with high resistance to abrasion and wear and will not change its solid form under high temperatures. Typical EPDM colors are green and tan. EPDM has proven its durability as an infill product in all types of climates. Its excellent elasticity properties and resistance to atmospheric and chemical agents provide a stable, high performance infill product.	Cost Per LBS			
TPE (Thermo plastic elastomer) infill is non-toxic, heavy metal free, available in a variety of colors that resist fading, and 100% recyclable and reusable as infill.	Cost Per LBS			
Organics infill natural cork	Cost Per LBS			
Organics infill ground fibers from the outside shell of the coconut.	Cost Per LBS			
Silica Sand with no possibility of heavy metals, dust/turbidity rating is less than 100., and purity (greater than 90%).	Cost Per LBS			

Coated Silica Sand with no possibility of heavy metals, dust/turbidity rating is less than 100., purity (greater than 90%), with either a soft or rigid coating specifically engineered for synthetic turf. These coatings are either elastomeric or acrylic in nature (non-toxic).	Cost Per LBS			
Crumb Rubber to be substantially metal free, and should not contain liberated fiber in an amount that exceeds .01% of the total weight of crumb rubber, or .6 lbs. per ton.	Cost Per LBS			
Coated Crumb Rubber can be coated with colorants, sealers, or anti-microbial substances.	Cost Per LBS			
<b>Items as a percentage off Manufacturer, Distributor, Supplier, or Contractor price list. Need to provide a copy of the Price Sheets that the discount will be based upon. (Add lines items as needed below)</b>				
<b>Product Class</b>	<b>Unit of Measure</b>	<b>Bid Discount Percentage</b>		
Pole Vault Pit	Percentage			
Take-Off Boards	Percentage			
Shot Put Toe Boards	Percentage			
Shot Put Rings	Percentage			
Discus Rings	Percentage			
Combination Hammer/Discus Cage and cage must meet IAAF rules	Percentage			
Hammer/Discus Conversion Ring	Percentage			
Water Jump Hurdle with sleeves	Percentage			
Water Jump Cover	Percentage			
Removable Track Curbing. The curb shall meet the requirements of the IAAF.	Percentage			
Long Jump Sandpits and Traps.	Percentage			
Sand for Sand Pits and Traps	Percentage			
Football goal posts	Percentage			
Soccer goals	Percentage			
Batting Cages	Percentage			
	Percentage			
	Percentage			
<b>Synthetic Turf Installation - to install synthetic turf on a prepared site add more line if needed)</b>				
Cost to install synthetic turf on a prepared site	<b>Unit of Measure</b>	<b>List Price</b>	<b>Bid Discount Percentage</b>	<b>Bid Price (List Price - Bid Discount Percentage)</b>
High School Football Field	Cost Sq. Ft.			
College or University Football Field	Cost Sq. Ft.			
High School Soccer Field	Cost Sq. Ft.			

College or University Soccer Field	Cost Sq. Ft.				
High School Baseball Field	Cost Sq. Ft.				
College or University Baseball Field	Cost Sq. Ft.				
High School Rugby Field	Cost Sq. Ft.				
College or University Rugby Field	Cost Sq. Ft.				
High School Lacrosse Field	Cost Sq. Ft.				
College or University Lacrosse Field	Cost Sq. Ft.				
Installation of Fields 0-10,000 sq. ft.	Cost Sq. Ft.				
Installation of Fields 10,001 to 25,000 sq. ft.	Cost Sq. Ft.				
Installation of Fields 125,001 to 50,000 sq. ft.	Cost Sq. Ft.				
	Cost Sq. Ft.				
	Cost Sq. Ft.				
	Cost Sq. Ft.				
<b>Bidder to provide synthetic turf pricing for all items that meet the specification. Add as many lines as needed.</b>					
Supplier Part Number	Product Description	Unit of Measure	List Price	Bid Discount Percentage	Bid Price (List Price - Bid Discount Percentage)
Rekortan G13 System	Rekortan G-13 is a dual durometer, 13mm, impermeable full pour system. The first layer consists of a self leveling PU made from environmentally friendly, renewable resources. The top layer is fluid applied and embedded with a dense matrix of EPDM rubber granules.	SY	\$90.26	3.00%	\$87.96
Rekortan M99 System	Rekortan M99 is a 15mm impermeable, full pour system featuring 3 specialized layers: a self leveling fluid applied PU coat, an innovative central force reduction layer, and a fluid applied PU topcoat with a dense matrix of broadcast EPDM rubber granules with no solvents or filler added.	SY	\$90.68	3.00%	\$87.96
Rekortan G10 System	Rekortan G-10 is a dual durometer, 10mm, impermeable full pour system. The first layer consists of a self leveling PU made from environmentally friendly, renewable resources. The top layer is fluid applied and embedded with a dense matrix of EPDM rubber granules.	SY	\$77.34	3.00%	\$75.02

			\$49.05	3.00%	\$47.58
Spartan-B	Black base mat spray	SY			
Spartan-BS	Permeable structural spray coat system at 13 mm in depth.	SY	\$52.29	3.00%	\$50.72
Spartan-BSS	Impermeable structural spray coat system at 13 mm in depth, featuring a thin seal layer of Qualipur 5050 and EPDM powdered rubber.	SY	\$65.61	3.00%	\$63.64
Spartan-BV System	Spartan-BV is 14 mm two layer sandwich style PU track system. Its base later consists of a black mat of SBR rubber granules bound in PU. The second layer is a seal coat using two component PU and EPDM Powdered Rubber. The surface layer is made up of colored EPDM rubber granules cast into a PU flood coat.	SY	\$80.63	3.00%	\$78.21
Add for Color		SY	\$7.79	3.00%	\$7.55
Track Striping	NFHS	LS	\$16,393.44	3.00%	\$15,901.64
Rhino SF 38	38 oz. Slit-Film Product with 2" Pile Height	SF	\$4.26	3.00%	\$4.13
Rhino SF 42	42 oz. Slit-Film Product with 2" Pile Height	SF	\$4.33	3.00%	\$4.20
Rhino SF 48	48 oz. Slit-Film Product with 2" Pile Height	SF	\$4.44	3.00%	\$4.31
Rhino HM 38	38 oz. High Micron Monofilament with 2" Pile Height	SF	\$4.31	3.00%	\$4.18
Rhino HM 42	42 oz. High Micron Monofilament with 2" Pile Height	SF	\$4.39	3.00%	\$4.26
Rhino HM 48	48 oz. High Micron Monofilament with 2" Pile Height	SF	\$4.50	3.00%	\$4.37
Rhino Blend 38	38 oz. Blended Product of Slit-Film & Monofilament with 2" Pile Height	SF	\$4.33	3.00%	\$4.20
Rhino Blend 42	42 oz. Blended Product of Slit-Film & Monofilament with 2" Pile Height	SF	\$4.37	3.00%	\$4.24
Rhino Blend 48	48 oz. Blended Product of Slit-Film & Monofilament with 2" Pile Height	SF	\$4.48	3.00%	\$4.34
Rhino SF 38 HD	38 oz. Slit-Film Product with 1.5" Pile Height with required shock absorption pad	SF	\$5.55	3.00%	\$5.39

Rhino SF 42 HD	42 oz. Slit-Film Product with 1.5" Pile Height with required shock absorption pad	SF	\$5.63	3.00%	\$5.46
Rhino SF 48 HD	48 oz. Slit-Film Product with 1.5" Pile Height with required shock absorption pad	SF	\$5.74	3.00%	\$5.56
Rhino HM 38 HD	38 oz. High Micron Monofilament with 1.5" Pile Height with required shock absorption pad	SF	\$5.61	3.00%	\$5.44
Rhino HM 42 HD	42 oz. High Micron Monofilament with 1.5" Pile Height with required shock absorption pad	SF	\$5.68	3.00%	\$5.51
Rhino HM 48 HD	48 oz. High Micron Monofilament with 1.5" Pile Height with required shock absorption pad	SF	\$5.80	3.00%	\$5.63
Rhino Blend 38 HD	38 oz. Blended Product of Slit-Film & Monofilament with 1.5" Pile Height	SF	\$5.63	3.00%	\$5.46
Rhino Blend 42 HD	42 oz. Blended Product of Slit-Film & Monofilament with 1.5" Pile Height	SF	\$5.70	3.00%	\$5.53
Rhino Blend 48 HD	48 oz. Blended Product of Slit-Film & Monofilament with 1.5" Pile Height	SF	\$5.78	3.00%	\$5.60
Rootzone 3DHM 52	60 oz. High Micron Monofilament with AstroTurf RootZone Technology	SF	\$4.75	3.00%	\$4.60
Rootzone 3DSF 52	52 oz. Slit-Film with AstroTurf RootZone Technology	SF	\$4.59	3.00%	\$4.45
Rootzone 3DSF 60	60 oz. Slit-Film with AstroTurf RootZone Technology	SF	\$4.76	3.00%	\$4.62
Rootzone 3D3 Blend 52	52 oz. Blended Slit-Film & Monofilament with AstroTurf RootZone Technology	SF	\$4.59	3.00%	\$4.45
Rootzone 3D3 Blend 60	60 oz. Blended Slit-Film & Monofilament with AstroTurf RootZone Technology	SF	\$4.76	3.00%	\$4.62
GameDay Grass 3D 360	12,000 denier (High Micron) Monofilament / 10,000 denier slit-film with AstroTurf Rootzone Technology	SF	\$4.76	3.00%	\$4.62
Bionic	60 oz., 2" product featuring a bionic Monofilament Fiber, which blends polyethylene and nylon into the same fiber	SF	\$4.85	3.00%	\$4.70

Rootzone 3DHM 60 HD	60 oz. High Micron Monofilament with AstroTurf RootZone Technology with required shock absorption pad	SF	\$5.83	3.00%	\$5.65
Rootzone 3DSF 52 HD	52 oz. Slit-Film with AstroTurf RootZone Technology with required shock absorption pad	SF	\$5.67	3.00%	\$5.50
Rootzone 3DSF 60 HD	60 oz. Slit-Film with AstroTurf RootZone Technology with required shock absorption pad	SF	\$5.84	3.00%	\$5.67
Rootzone 3D3 Blend 52 HD	52 oz. Blended Slit-Film & Monofilament with AstroTurf RootZone Technology with required shock absorption pad	SF	\$5.67	3.00%	\$5.50
Rootzone 3D3 Blend 60 HD	60 oz. Blended Slit-Film & Monofilament with AstroTurf RootZone Technology with required shock absorption pad	SF	\$5.84	3.00%	\$5.67
DT32	Hybrid 1 1/8" Pile Height 3D System with a Slit-film Face Fiber and AstroTurf's Rootzone Technology designed to be installed over a Pad System with ZeoFill Infill Materials in lieu of SBR Rubber	SF	\$7.21	3.00%	\$7.00
Nike NRG	Rootzone 3D3 Blend 52 Turf System inclusive of AstroTurf's Exclusive Nike Grind Infill System with required shock absorption pad	SF	\$5.28	3.00%	\$5.12
Nike NRG+	Rootzone 3D3 Blend 52 Turf System inclusive of AstroTurf's Exclusive Nike Grind Infill System with exclusive Nike Shock Pad	SF	\$5.28	3.00%	\$5.12
Rhino Blend G 38	38 oz. Blended Product of Slit-Film & Monofilament with 2" Pile Height, featuring GreenPlay Organic Infill with required shock absorption pad	SF	\$7.69	3.00%	\$7.46
Rhino Blend G 42	42 oz. Blended Product of Slit-Film & Monofilament with 2" Pile Height, featuring GreenPlay Organic Infill with required shock absorption pad	SF	\$7.75	3.00%	\$7.52

Rhino Blend G48	48 oz. Blended Product of Slit-Film & Monofilament with 2" Pile Height, featuring GreenPlay Organic Infill with required shock absorption pad	SF	\$7.83	3.00%	\$7.60
Rootzone 3D3 Blend G 52	52 oz. Blended Slit-Film & Monofilament with AstroTurf RootZone Technology, featuring GreenPlay Organic Infill with required shock absorption pad	SF	\$7.99	3.00%	\$7.75
Rootzone 3D3 Blend G 60	60 oz. Blended Slit-Film & Monofilament with AstroTurf RootZone Technology, featuring GreenPlay Organic Infill with required shock absorption pad	SF	\$8.16	3.00%	\$7.91
Rootzone Diamond Blend	Synthetic Turf designed to replicate infield grass. 1.625" pile height, 45 oz. turf product featuring a blend of High Micron Monofilament fibers, Slit Film fibers, and AstroTurf RootZone Technology.	SF	\$4.43	3.00%	\$4.30
Rootzone Diamond Blend	Synthetic Turf designed to replicate infield grass. 1.875" pile height, 52 oz. turf product featuring a blend of High Micron Monofilament fibers, Slit Film fibers, and AstroTurf RootZone Technology.	SF	\$4.59	3.00%	\$4.45
Rootzone Diamond-i 1.12	Synthetic Turf designed to replicate clay. 1.125" pile height, 45 oz. turf product featuring a blend of diamond-shaped monofilament polyethylene, diamond-shaped nylon, and RootZone fibers.	SF	\$4.55	3.00%	\$4.41
Rootzone Diamond-i 1.62	Synthetic Turf designed to replicate clay. 1.625" pile height, 60 oz. turf product featuring a blend of diamond-shaped monofilament polyethylene, diamond-shaped nylon, and RootZone fibers.	SF	\$4.92	3.00%	\$4.77
Diamond Blend	Synthetic Turf designed to replicate outfield grass. 1.625" pile height, 42 oz. turf product featuring a blend of High Micron Monofilament fibers and Slit Film fibers.	SF	\$4.29	3.00%	\$4.16

Rootzone Diamond Blend	Synthetic Turf designed to replicate outfield grass. 1.625" pile height, 52 oz. turf product featuring a blend of High Micron Monofilament fibers, Slit Film fibers, and AstroTurf RootZone Technology.	SF	\$4.63	3.00%	\$4.49
Rootzone Diamond SF 1"	Unique mound solution designed to combat the heavy wear exerted upon pitchers' mounds. Knitted 80 oz. turf product featuring Slit Film fibers, PolyLock backing, and RootZone Technology at a 1" pile height.	SF	\$5.91	3.00%	\$5.74
Rootzone Diamond DTi 1"	Unique mound solution designed to combat the heavy wear exerted upon pitchers' mounds. Tightly tufted 90 oz. turf product featuring Slit Film fibers and RootZone Technology at a 1.125" pile height.	SF	\$5.41	3.00%	\$5.25
Diamond SF	Unique mound solution designed to combat the heavy wear exerted upon pitchers' mounds. Knitted 80 oz. turf product featuring Slit Film fibers, PolyLock backing, and RootZone Technology at a 1" pile height.	SF	\$4.29	3.00%	\$4.16
Rootzone Diamond-i	Unique mound solution designed to combat the heavy wear exerted upon pitchers' mounds. Tightly tufted 90 oz. turf product featuring Slit Film fibers and RootZone Technology at a 1.125" pile height.	SF	\$4.59	3.00%	\$4.46
LigaTurf Blend	48 oz. Blended Product of Slit-Film & Monofilament. Must be used over a shock absorption pad.	SF	\$4.67	3.00%	\$4.53
LigaTurf Rootzone Blend 1.5"	52 oz. Blended Product of Slit-Film & Monofilament fibers at 1.5" tall, featuring AstroTurf RootZone technology. Must be used over a shock absorption pad.	SF	\$4.82	3.00%	\$4.68
AstroTurf System 12	60 oz. AstroTurf Knitted Nylon	SF	\$7.64	3.00%	\$7.42
AstroTurf System 5	60 oz. AstroTurf Knitted Nylon with 5MM Factory Applied Foam Pad	SF	\$9.40	3.00%	\$9.12

AstroTurf System 90	60 oz. AstroTurf Knitted Nylon adhered to 3/8" Armacel Pad	SF	\$12.14	3.00%	\$11.78
AstroTurf JG	60 oz. AstroTurf Knitted Nylon with 3MM Factory Applied Foam Pad	SF	\$9.02	3.00%	\$8.75
Stadia Turf 13	43 oz. Tufted Polyethylene turf product for Field Hockey. Must be used over a shock absorption pad.	SF	\$6.41	3.00%	\$6.22
PoliGrass Olympia	48 oz. Tufted Polyethylene turf product for Field Hockey. Uses Latex backing. Must be used over a shock absorption pad.	SF	\$7.76	3.00%	\$7.52
PoliGrass Platinum Coolplus	48 oz. Tufted Polyethylene turf product for Field Hockey, featuring CoolPlus fibers. Uses Latex backing. Must be used over a shock absorption pad.	SF	\$8.20	3.00%	\$7.95
AstroGrass 38	38 oz. Tufted Nylon turf product for Field Hockey. Must be used over a shock absorption pad.	SF	\$6.46	3.00%	\$6.27
AstroGrass 48	48 oz. Tufted Nylon turf product for Field Hockey. Must be used over a shock absorption pad.	SF	\$6.87	3.00%	\$6.67
PureGrass	56 oz. 100% Nylon. 1.75" Pile Height Face Fiber with RootZone Technology	SF	\$6.20	3.00%	\$6.01
PureGrass 8MM	56 oz. 100% Nylon. 1.75" Pile Height Face Fiber with RootZone Technology with 8MM Factory Applied Foam Pad	SF	\$7.75	3.00%	\$7.52
PGPN	56 oz. Slit-Film Face Fiber. 1.75" Pile Height with Rootzone Technology	SF	\$5.85	3.00%	\$5.68
PGPN 5MM	56 oz. Slit-Film Face Fiber. 1.75" Pile Height with Rootzone Technology with 5MM Factory Applied Foam Pad	SF	\$7.05	3.00%	\$6.84
3D Decade	AstroTurf 10 year Manufacturer's Warranty - Only available with 3DXtreme60 & 3DX60 Products when purchased with PreFabrication & AstroFusion Seaming Technology	SF	\$0.49	3.00%	\$0.48

3rd Party Warranty	8-Year, 3rd Party Insured Warranty	LS	\$5,194.81	3.00%	\$5,038.96
Basix Landscape 150	40 oz 1.5" Pile Height Diamond Monofilament Face Fiber with ThatchZone™ Technology	SF	\$11.73	3.00%	\$11.38
Basix Landscape 250	60 oz. 1.75" Pile Height Diamond Monofilament Face Fiber with ThatchZone™ Technology	SF	\$12.38	3.00%	\$12.01
Basix Landscape 350	80 oz. 1.75" Pile Height Diamond Monofilament Face Fiber with ThatchZone™ Technology	SF	\$12.95	3.00%	\$12.56
SYNBermuda 200	60oz 100% Nylon, 1 ¼" Pile Height Face Fiber with ThatchZone and HeatBlock Technology.	SF	\$15.95	3.10%	\$15.46
SYNBermuda Premium 220	60 oz. 100% Nylon, 1" Pile Height Face Fiber with ThatchZone™ and HeatBlock™ Technologies	SF	\$15.97	3.00%	\$15.49
SYNFescue Platinum 351	78 oz., 2" Pile Height Omega Fiber Monofilament Face Fiber with ThatchZone™ and HeatBlock™ Technologies	SF	\$14.84	3.00%	\$14.39
SYNTipede Platinum 351	80 oz., 1.5" Pile Height Omega Fiber Monofilament Face Fiber with ThatchZone™ and HeatBlock™ Technologies	SF	\$14.84	3.00%	\$14.39
SYNTipede Platinum 322	60 oz., 1" Pile Height Omega Fiber Monofilament Face Fiber with ThatchZone™ and HeatBlock™ Technologies	SF	\$13.79	3.00%	\$13.38
Football Yard Lines	4" Yard Lines	LS	no additional charge	3.00%	no additional charge
Football Number Package	Inlaid Number Package	LS	\$21,986.47	3.00%	\$21,326.88
Outlined/Shadowed Football	Inlaid Outlined/Shadowed Number Package	LS	\$4,753.25	3.00%	\$4,610.65
Football Hash Mark Package	Inlaid Hash Mark Package	LS	\$8,298.16	3.00%	\$8,049.22
Soccer	Inlaid Soccer Lines	LS	\$11,214.57	3.00%	\$10,878.13
Soccer Tick Marks	Inlaid Soccer Tick Mark Package	LS	\$2,336.81	3.00%	\$2,266.70
Men's Lacrosse	Inlaid Men's LAX Lines	LS	\$17,651.58	3.00%	\$17,122.04
Men's Lacrosse Tick Marks	Inlaid Men's LAX Tick Mark Package	LS	\$2,336.81	3.00%	\$2,266.70
Women's Lacrosse	Inlaid Women's LAX Lines	LS	\$11,237.43	3.00%	\$10,900.31
Women's Lacrosse Tick Marks	Inlaid Women's LAX Tick Mark Package	LS	\$2,336.81	3.00%	\$2,266.70
Field Hockey	Inlaid Field Hockey Lines	LS	\$10,918.86	3.00%	\$10,591.29
Field Hockey Tick Marks	Inlaid Field Hockey Tick Mark Package	LS	\$2,336.81	3.00%	\$2,266.70

Baseball Inlays	Inlaid Baseball Lines	LS	\$1,681.43	3.00%	\$1,630.99
Baseball Skin Infield	Skin Infield	LS	\$20,990.47	3.00%	\$20,360.75
Baseball Warning Track	Baseball Warning Track	LS	\$28,819.44	3.00%	\$27,954.86
Softball Inlays	Inlaid Softball Lines	LS	\$1,594.29	3.00%	\$1,546.46
Softball Warning Track	Softball Warning Track	LS	\$30,767.86	3.00%	\$29,844.82
Baseball/Softball Replacement	8 Batter's Box & Catcher's Box Replacement Panels	LS	\$6,675.32	3.00%	\$6,475.06
Rugby	Inlaid Rugby Lines	LS	\$2,569.27	3.00%	\$2,492.19
Flag Football	Inlaid Flag Football Lines	LS	\$10,898.27	3.00%	\$10,571.32
Flag Football Tick Marks	Inlaid Flag Football Tick Mark Package	LS	\$2,271.87	3.00%	\$2,203.71
Ultimate Frisbee	Inlaid Ultimate Frisbee Lines	LS	\$10,898.08	3.00%	\$10,571.14
Ultimate Frisbee Tick Marks	Inlaid Ultimate Frisbee Tick Mark Package	LS	\$2,271.87	3.00%	\$2,203.71
End Zone Lettering (Single Color)	Single Color Block Letter approx. 18' x 14'	LS	\$1,678.68	3.00%	\$1,628.32
End Zone Lettering (Two Colors)	Two Color Block Letter approx. 18' x 14'	LS	\$2,192.97	3.00%	\$2,127.18
End Zone Lettering (Three Colors)	Three Color Block Letter approx. 18' x 14'	LS	\$2,782.58	3.00%	\$2,699.10
Standard Center Field Logo	Approx. size 30' x 30'	LS	\$9,250.66	3.00%	\$8,973.14
Advanced Center Field Logo	Approx. size 30' x 30'	LS	\$12,349.36	3.00%	\$11,978.88
Complex Center Field Logo	Approx. size 30' x 30'	LS	\$19,544.17	3.00%	\$18,957.84
PreFabrication of Football Inlays	PreFabrication of all Number Package and Hash Mark Package prior to shipment of turf to job site.	LS	\$7,142.86	3.00%	\$6,928.57
PreFabrication of End Zone Panels	PreFabrication of End Zone Panels with Inlaid Graphics prior to shipment of turf to job site.	per Letter	\$714.29	3.00%	\$692.86
Thread	For sewing seams	per lb.	\$15.58	3.00%	\$15.12
Hot Melt	For inlays and/or seams	per box	\$97.40	3.00%	\$94.48
Seam Tape	For inlays and/or seams	per roll	\$84.42	3.00%	\$81.88
Mapei 1K	For inlays and/or seams	per bucket	\$0.00		\$0.00
Nordot 34G	For inlays and/or seams	per bucket	\$398.64	3.00%	\$386.68
Nordot 34S Plus (Spray Adhesive)	For 100% Direct Glue Down applications	per 55 gal. drum	\$2,674.32	3.00%	\$2,594.09
AstroFusion	AstroTurf AstroFusion Seaming Technology	per lin. Ft.	\$2.19	3.00%	\$2.13
Reflective AstroFusion	AstroTurf AstroFusion Seaming Technology Designed for installation over pad systems	per lin. Ft.	\$2.55	3.00%	\$2.47
Reinforced Backing	Convertible System Reinforced Backing	SF	\$0.42	3.00%	\$0.40
Ambient Rubber	Ambient Processed Recycled Tire Crumb 10-20 Mesh for Sports Fields	per lb.	\$0.27	3.00%	\$0.26
Cryogenic Rubber	Crygenically Processed Recycled Tire Crumb 10-20 Mesh for Sports Fields	per lb.	\$0.30	3.00%	\$0.29
Sand	20-40 Mesh, Round to Sub-round Sand with hardness factor of 6 or greater	per lb.	\$0.17	3.00%	\$0.16
Nike Grind	Recycled Nike Shoe Components processed to 10-20 Mesh for Sports Fields	per lb.	\$0.58	3.00%	\$0.56

Nike Grind Green	Recycled Nike Shoe Components processed to 10-20 Mesh for Sports Fields Painted Green	per lb.	\$0.65	3.00%	\$0.63
GreenPlay	Organic Infill composed of a blend of coconut husks and cork.	per lb.	\$0.87	3.00%	\$0.84
Z-Chill	Organic mineral infill composed of clinoptilolite zeolite for cooling benefits.	per lb.	\$0.25	3.00%	\$0.24
Melos EPDM	Ethylene propylene diene monomer virgin rubber infill.	per lb.	\$1.30	3.00%	\$1.26
AstroTurf Custom SMG TC1	Featuring a soft-bristled rotating brush to remove debris and a rear leveling brush to settle the infill and lift the turf fibers.	EA	\$9,375.00	3.00%	\$9,093.75
SMG SportsChamp	Self propelled maintenance machine featuring a rotary brush and various attachments for all maintenance needs, including fiber lifting, infill leveling and debris removal.	EA	\$62,500.00	3.00%	\$60,625.00
GreensGroomer 720SDE	Diamond drag brush.	EA	\$3,625.54	3.00%	\$3,516.77
Spring Tine Rake Attachment	Attachment for decompacting infill.	EA	\$936.56	3.00%	\$908.47
Gmax Testing	Third party service to test shock absorption properties of fields.	EA	\$1,375.00	3.00%	\$1,333.75
PreShipment Testing	In-plant testing of manufactured turf products prior to shipment.	per Panel	\$812.50	3.00%	\$788.13
FIFA Lab Testing	FIFA-certified testing agency will test turf products performance against FIFA-developed parameters for performance.	EA	\$12,500.00	3.00%	\$12,125.00
FIFA Field Testing	FIFA-certified testing agency will test field performance against FIFA-developed parameters for performance.	EA	\$12,500.00	3.00%	\$12,125.00
Base Infiltration Testing	Testing to evaluate drainage properties of field base.	EA	\$1,375.00	3.00%	\$1,333.75
Brock PowerBase	Expanded PolyPropylene shock absorbing pad	SF	\$2.00	3.00%	\$1.94
Brock ASP-15	Expanded PolyPropylene shock absorbing pad at 15 mm thickness.	SF	\$1.13	3.00%	\$1.09
Armace11 3/8"	Pad System	SF	\$1.18	3.00%	\$1.14
Armace11 3/8" with Hole Pu	Pad System with Drainage Holes	SF	\$1.36	3.00%	\$1.32
Armace11 5/8"	Pad System	SF	\$1.74	3.00%	\$1.69
Armace11 5/8" with Hole Pu	Pad System with Drainage Holes	SF	\$1.93	3.00%	\$1.87

Enplast with Exclusive Nike	Pad System with Drainage Channels and Holes. Extruded rubber featuring the byproducts of Nike shoe manufacturing.	SF	\$0.86	3.00%	\$0.84
ThermaGreen Foam Pad 1.125" (SYNLawn Landscape Turf Applications ONLY)	4'x6' Playground Pad System with Drainage	SF	\$2.60	3.00%	\$2.52
ThermaGreen Foam Pad 2.125" (SYNLawn Landscape Turf Applications ONLY)	4'x6' Playground Pad System with Drainage	SF	\$2.83	3.00%	\$2.75
Infill & Fiber Grooming A	Rotary Broom, Magnet, Vacuum Cleaning & Decompaction Process - Field under 75,000 SF	LS	\$6,200.00	3.00%	\$6,014.00
Infill & Fiber Grooming B	Rotary Broom, Magnet, Vacuum Cleaning & Decompaction Process - Field over 75,000 SF	LS	\$6,825.00	3.00%	\$6,620.25
Infill & Fiber Grooming C	Rotary Broom, Magnet, Vacuum Cleaning & Decompaction Process - Field over 100,000 SF	LS	\$7,450.00	3.00%	\$7,226.50





**AEPA Name Change Form:**  
**AEPA IFB #016-G**  
**Athletic Surfaces – Synthetic Turf**

**Old Contract Holder** ProGrass, LLC

**New Contract Holder** AstroTurf Corporation

**NEW COMPANY CONTACT INFORMATION**

Company Name: AstroTurf Corporation Website: www.astroturf.com

Company Address: 2680 Abutment Road

City: Dalton State: GA Zip: 30721

Contact Person: Victoria Stringham Title: Dir. of Cooperative Purchasing & Sponsorships

Contact Phone: 480-415-6300 Contact Email: vstringham@astroturf.com

**COMPANY HEADQUARTER LOCATION**

Company Address: 2680 Abutment Road

City: Dalton State: GA Zip: 30721

Main Phone Number: 706-277-8873 How long at this address? 10+ years

**COMPANY BRANCH LOCATIONS**

Branch Address: 1601 Mary's Avenue, Suite 2G-10

City: Sharpsburg State: PA Zip: 15215

Branch Address: 4509 South Hwy 150

City: Lexington State: NC Zip: 27295

Branch Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Branch Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

*If more branch locations, insert information here or add another sheet with above information.*

**WORK FORCE**

- 1. Key Contacts and Providers:** Provide a list of the individuals, titles, and contact information for the individuals who will provide the following services on a national and/or local basis:

Function	Name	Title	Phone	Email
Contract Manager	Victoria Stringham	Dir. of Co-op Purchasing	480-415-6300	vstringham@astroturf.com

<b>Sales Manager</b>	Jim Petrucelli	Exec. VP of Sales, Marketing & Strategy	412-302-8634	jpetrucelli@astroturf.com
<b>Customer &amp; Support Manager</b>	Matt Olds	Sales Support Director	732-677-0484	molds@astroturf.com
<b>Function</b>	<b>Name</b>	<b>Title</b>	<b>Phone</b>	<b>Email</b>
<b>Distributors, Dealers, Installers, Sales Reps</b>	Victoria Stringham	Dir. of Co-Op Purchasing	480-415-6300	vstringham@astroturf.com
<b>Consultants &amp; Trainers</b>	Victoria Stringham	Dir. of Co-Op Purchasing	480-415-6300	vstringham@astroturf.com
<b>Technical, Maintenance &amp; Support Services</b>	Leroy Lawson	Dir. of After Care Service	704-902-2928	llawson@astroturf.com
<b>Quotes, Invoicing &amp; Payments</b>	Kim Summers	Director of Estimating	706-264-1314	ksummers@astroturf.com
<b>Warranty &amp; After the Sale</b>	Leroy Lawson	Dir. of After Care Service	704-902-2928	llawson@astroturf.com
<b>Financial Manager</b>	Robert Staten	COO	706-277-8873	rstaten@astroturf.com

2. **Sales Force:** Provide total number and location of salespersons employed by your company in the United States by completing the following: *(If you need more lines add another sheet with the required information.)*

Number of Sales Reps	City	State
See attached		

3. **Service/Support and Distribution Centers:** Provide the type (service/support or distribution) and location of centers that support the United States by completing the following: *(If you need more lines add another sheet with the required information.)*

Center Type	City	State
See attached		

4. **In-house Resources:** Describe the business's current in-house workforce, equipment and facilities available to perform under this solicitation.

*AstroTurf has the ability to be completely integrated from manufacturing, delivery & installation. We have direct crews for the installation of site preparation, synthetic turf installation & manufacturing.*

**MARKETING**

1. **Key Marketing Contact(s):** List the name(s), title(s) and contact information of the business's key national and regional marketing office(s). *(If you need more lines add another sheet with the required information.)*

Name	Title	Phone	Email
See attached			

**INDEPENDENT SUBCONTRACTORS, DISTRIBUTORS, INSTALLERS, ETC.**

**Current Subcontractors, Distributors, Installers, Etc.:** Provide as a separate document(s) a list of current subcontractors, distributors, installers and other independent service providers who are contracted to perform the type of work outlined in this contract in for AEPA Member Agency. Include, if applicable, contractor license information and the state(s) wherein they are eligible to provide services on behalf of this business.

Signature Matthew W. Olds

Print Name Matthew Olds

Company AstroTurf Corporation

Phone 732-677-0484

E-mail molds@astroturf.com

AEPA Bid Committee Chair \_\_\_\_\_

Signature John Tontelli

Print Name John Tontelli

AEPA Member State New Mexico

Phone 505-344-5470

E-mail john@ces.org



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## Workforce

### 2. AstroTurf Sales Force

<u>Salesman</u>	<u>Email</u>	<u>City/State</u>	<u>Phone</u>
Jim Savoca	<a href="mailto:jsavoca@astroturf.com">jsavoca@astroturf.com</a>	Round Rock, TX	(512) 635-2621
Dominick Beraducci	<a href="mailto:dberaducci@astroturf.com">dberaducci@astroturf.com</a>	Fresno, CA	(559) 612-9065
Pat Cassa	<a href="mailto:pcassa@astroturf.com">pcassa@astroturf.com</a>	Lakewood, CA	(714) 318-0763
Jennifer Young	<a href="mailto:jyoung@astroturf.com">jyoung@astroturf.com</a>	Oceanside, CA	(760) 500-7071
Kevin Chesser	<a href="mailto:kchessher@astroturf.com">kchessher@astroturf.com</a>	The Woodlands, TX	(281) 989-5550
Jeff Raiger	<a href="mailto:jraiger@astroturf.com">jraiger@astroturf.com</a>	Valley Center, CA	(760) 443-3888
David Digeronimo	<a href="mailto:ddigeronimo@astroturf.com">ddigeronimo@astroturf.com</a>	Oceanside, CA	(760) 613-4313
Jason Young	<a href="mailto:jyoung@astroturf.com">jyoung@astroturf.com</a>	Austin, TX	(512) 745-4603
Curtis Wilson	<a href="mailto:cwilson@astroturf.com">cwilson@astroturf.com</a>	Broken Arrow, Ok	(918) 698-2406
Shamus Petrucelli	<a href="mailto:spetrucelli@astroturf.com">spetrucelli@astroturf.com</a>	Pittsburgh, PA	(412) 335-0403
Carl Capellas	<a href="mailto:ccapellas@astroturf.com">ccapellas@astroturf.com</a>	Silver Lake, OH	(216) 409-7602
Dan Driscoll	<a href="mailto:ddriscoll@astroturf.com">ddriscoll@astroturf.com</a>	Downingtown, PA	(484) 995-7626
Dan Isaac	<a href="mailto:disaac@astroturf.com">disaac@astroturf.com</a>	Solon, OH	(440) 840-8220
Tom Rombach	<a href="mailto:trombach@astroturf.com">trombach@astroturf.com</a>	Sharpsburg, PA	(412) 953-6081
John Luckhardt	<a href="mailto:jluckhardt@astroturf.com">jluckhardt@astroturf.com</a>	Sharpsburg, PA	(412) 965-3454
Todd DeWolfe	<a href="mailto:tdewolfe@astroturf.com">tdewolfe@astroturf.com</a>	Pinkey, MI	(248) 840-8074
Rob Mitchell	<a href="mailto:rmitchell@astroturf.com">rmitchell@astroturf.com</a>	Chicago, IL	(312) 221-7708
Aaron Klotz	<a href="mailto:aklotz@astroturf.com">aklotz@astroturf.com</a>	Adrian, MI	(517) 902-4453
Steve Coleman	<a href="mailto:scoleman@astroturf.com">scoleman@astroturf.com</a>	Lutz, FL	(813) 777-7677
Wes Allen	<a href="mailto:wallen@astroturf.com">wallen@astroturf.com</a>	Oviedo, FL	(407) 463-7813
Jason Berning	<a href="mailto:jberning@astroturf.com">jberning@astroturf.com</a>	Richmond, MO	(816) 509-3139
Jess Bream	<a href="mailto:jbream@astroturf.com">jbream@astroturf.com</a>	Shawnee, MO	(303) 638-9515
Doug White	<a href="mailto:dwhite@astroturf.com">dwhite@astroturf.com</a>	El Dorado, KS	(316) 305-0078
Tom Burlingame	<a href="mailto:tburlingame@astroturf.com">tburlingame@astroturf.com</a>	West Linn, OR	(503) 318-9448
Steve Einspanier	<a href="mailto:seinspanier@astroturf.com">seinspanier@astroturf.com</a>	St. Louis, MO	(314) 591-7157
Troy Johnson	<a href="mailto:tajohnson@astroturf.com">tajohnson@astroturf.com</a>	Lakeville, MN	(612) 210-1946
Dave Wheaton	<a href="mailto:dwheaton@astroturf.com">dwheaton@astroturf.com</a>	Longmeadow, MA	(413) 426-3789
Ed Busby	<a href="mailto:ebusby@astroturf.com">ebusby@astroturf.com</a>	Woodstock, CT	(860) 995-9531
Bob Lord	<a href="mailto:blord@astroturf.com">blord@astroturf.com</a>	Westboro, MA	(774) 513-0020
Jay Crider	<a href="mailto:jcrider@astroturf.com">jcrider@astroturf.com</a>	Rocky Mount, NC	(443) 955-9981
Garrett Bare	<a href="mailto:gbare@astroturf.com">gbare@astroturf.com</a>	Sparta, NC	(336) 468-7239
Anthony Meley	<a href="mailto:ameley@astroturf.com">ameley@astroturf.com</a>	Summerfield NC	(336) 451-7047
Greg Whitley	<a href="mailto:gwhitley@astroturf.com">gwhitley@astroturf.com</a>	Annapolis, MD	(443) 221-3577



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## Workforce

### 3. Service/Support & Distribution Centers

Firm	Center Type	Contacts	Headquarters	Phone / Email
All American Sports Surfaces	Service/Support & Distribution	Mike DiNatale Scott Koesterich	Boston, MA	781-821-1525 <a href="mailto:miked@asportsgroup.com">miked@asportsgroup.com</a> <a href="mailto:ScottK@asportsgroup.com">ScottK@asportsgroup.com</a>
Applied Landscape Technologies	Service/Support & Distribution	Phil Pirro Paul Martino	Montville, NJ	973-402-6544 <a href="mailto:phil@appliedlt.com">phil@appliedlt.com</a> <a href="mailto:paul@appliedlt.com">paul@appliedlt.com</a>
Grace Industries	Service/Support & Distribution	Gary Souilliard	Bath, PA	610-837-4100 <a href="mailto:garys@graceind.net">garys@graceind.net</a>
TPK	Service/Support & Distribution	Tim Keen	Pittsburgh, PA	412-913-4875 <a href="mailto:tpkinc2@verizon.net">tpkinc2@verizon.net</a>
Sports Turf	Service/Support & Distribution	Aaron McWhorter Todd Wiggins Todd Weber	Atlanta, GA	770-832-8691 <a href="mailto:TWiggins@sportsturf.net">TWiggins@sportsturf.net</a> <a href="mailto:tweber@sportsturf.net">tweber@sportsturf.net</a> <a href="mailto:amcwhorter@sportsturf.net">amcwhorter@sportsturf.net</a>
Mid America Sports Construction	Service/Support & Distribution	Kirk Grego Christian Cox Brock Wilson Curtis Wilson	Kansas City, KS	816-524-0010 <a href="mailto:kgrego@mid-americagolf.com">kgrego@mid-americagolf.com</a> <a href="mailto:ccox@mid-americagolf.com">ccox@mid-americagolf.com</a> <a href="mailto:bwilson@mid-americagolf.com">bwilson@mid-americagolf.com</a> <a href="mailto:cwilson@mid-americagolf.com">cwilson@mid-americagolf.com</a>
Swank Sports / AstroBuilders	Service/Support & Distribution	Kevin Swank	Austin, TX	512-496-1121 <a href="mailto:kevin@swanksports.com">kevin@swanksports.com</a>
Ideal Landscapes	Service/Support & Distribution	Dave Buckel	St. Louis, MO	314-892-9500 <a href="mailto:info@ideallandscape.com">info@ideallandscape.com</a>
Graffs Turf	Service/Support & Distribution	James Graff	Denver, CO	(800) 280-TURF
	Service/Support & Distribution	Marty Thiel Angela Ludgate Todd Rutherford		<a href="mailto:jgraff@graffsturf.com">jgraff@graffsturf.com</a> <a href="mailto:aludgate@graffsturf.com">aludgate@graffsturf.com</a> <a href="mailto:mthiel@graffsturf.com">mthiel@graffsturf.com</a>
Coast To Coast	Service/Support & Distribution	Steve Webb	Seattle, WA	855-703-9138 <a href="mailto:steve@coasttocoastturf.com">steve@coasttocoastturf.com</a>
Valley Precision Grading	Service/Support & Distribution	Kip Olson	Sacramento, CA	916-752-5645 <a href="mailto:kip@vpgrading.com">kip@vpgrading.com</a>



2680 Abutment Road, Dalton, GA 30721  
TF. (800) 723-TURF (8873) [help@astroturf.com](mailto:help@astroturf.com)

Colony Landscapes	Service/Support & Distribution	Ed Ott Mike Homen	San Francisco, CA	408-941-1090 <a href="mailto:Ed@colonylandscape.com">Ed@colonylandscape.com</a> <a href="mailto:mike@colonylandscape.com">mike@colonylandscape.com</a>
AFE Sports	Service/Support & Distribution	Doug Coulter Greg Morales	Los Angeles, CA	562-981-2508
Ohno Construction	Service/Support & Distribution	Barbara Ohno	Seattle, WA	206-325-1529 <a href="mailto:barbara@ohnoconstruction.com">barbara@ohnoconstruction.com</a>
General Acrylics	Service/Support & Distribution	Jonnie Deremo Mike Wickham	Phoenix, CA	800-436-2279 <a href="mailto:mwickham@generalacrylics.com">mwickham@generalacrylics.com</a> <a href="mailto:jderemo@generalacrylics.com">jderemo@generalacrylics.com</a>



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## Marketing

### 1. Key Marketing Contacts

Sydney Stahlbaum	Marketing Director	<a href="mailto:sstahlbaum@astroturf.com">sstahlbaum@astroturf.com</a>	512-423-5164
Harrison Scott	Marketing Operations Manager	<a href="mailto:hscott@astroturf.com">hscott@astroturf.com</a>	706-313-2348
Gary Jones	Communications Manager	<a href="mailto:gjones@astroturf.com">gjones@astroturf.com</a>	706-581-1253
Missy Burrow	Marketing Events Manager	<a href="mailto:mburrow@astroturf.com">mburrow@astroturf.com</a>	706-581-5459
Janelle Jones	Marketing - Lead Manager	<a href="mailto:jjones@astroturf.com">jjones@astroturf.com</a>	724-971-3558



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**INDEPENDENT SUBCONTRACTORS, DISTRIBUTORS, INSTALLERS, ETC.**

Firm	Contacts	Headquarters	Phone / Email
All American Sports Surfaces	Mike DiNatale Scott Koesterich	Boston, MA	781-821-1525 <a href="mailto:miked@aasportsgroup.com">miked@aasportsgroup.com</a> <a href="mailto:ScottK@aasportsgroup.com">ScottK@aasportsgroup.com</a>
Applied Landscape Technologies	Phil Pirro Paul Martino	Montville, NJ	973-402-6544 <a href="mailto:phil@appliedlt.com">phil@appliedlt.com</a> <a href="mailto:paul@appliedlt.com">paul@appliedlt.com</a>
Grace Industries	Gary Souillard	Bath, PA	610-837-4100 <a href="mailto:garys@graceind.net">garys@graceind.net</a>
TPK	Tim Keen	Pittsburgh, PA	412-913-4875 <a href="mailto:tpkinc2@verizon.net">tpkinc2@verizon.net</a>
Sports Turf	Aaron McWhorter Todd Wiggins Todd Weber	Atlanta, GA	770-832-8691 <a href="mailto:TWiggins@sportsturf.net">TWiggins@sportsturf.net</a> <a href="mailto:tweber@sportsturf.net">tweber@sportsturf.net</a> <a href="mailto:amcwhorter@sportsturf.net">amcwhorter@sportsturf.net</a>
Mid America Sports Construction	Kirk Grego Christian Cox Brock Wilson Curtis Wilson	Kansas City, KS	816-524-0010 <a href="mailto:kgrego@mid-americagolf.com">kgrego@mid-americagolf.com</a> <a href="mailto:ccox@mid-americagolf.com">ccox@mid-americagolf.com</a> <a href="mailto:bwilson@mid-americagolf.com">bwilson@mid-americagolf.com</a> <a href="mailto:cwilson@mid-americagolf.com">cwilson@mid-americagolf.com</a>
Swank Sports / AstroBuilders	Kevin Swank	Austin, TX	512-496-1121 <a href="mailto:kevin@swanksports.com">kevin@swanksports.com</a>
Ideal Landscapes	Dave Buckel	St. Louis, MO	314-892-9500 <a href="mailto:info@ideallandscape.com">info@ideallandscape.com</a>
Graffs Turf	James Graff	Denver, CO	(800) 280-TURF
	Marty Thiel Angela Ludgate Todd Rutherford		<a href="mailto:jgraff@graffsturf.com">jgraff@graffsturf.com</a> <a href="mailto:aludgate@graffsturf.com">aludgate@graffsturf.com</a> <a href="mailto:mthiel@graffsturf.com">mthiel@graffsturf.com</a>
Coast To Coast	Steve Webb	Seattle, WA	855-703-9138 <a href="mailto:steve@coasttocoastturf.com">steve@coasttocoastturf.com</a>
Valley Precision Grading	Kip Olson	Sacramento, CA	916-752-5645 <a href="mailto:kip@vpgrading.com">kip@vpgrading.com</a>

Colony Landscapes	Ed Ott Mike Homen	San Francisco, CA	408-941-1090 <a href="mailto:Ed@colonylandscape.com">Ed@colonylandscape.com</a> <a href="mailto:mike@colonylandscape.com">mike@colonylandscape.com</a>
AFE Sports	Doug Coulter Greg Morales	Los Angeles, CA	562-981-2508
Ohno Construction	Barbara Ohno	Seattle, WA	206-325-1529 <a href="mailto:barbara@ohnoconstruction.com">barbara@ohnoconstruction.com</a>
General Acrylics	Jonnie Deremo Mike Wickham	Phoenix, CA	800-436-2279 <a href="mailto:mwickham@generalacrylics.com">mwickham@generalacrylics.com</a> <a href="mailto:jderemo@generalacrylics.com">jderemo@generalacrylics.com</a>

# ASTROTURF® Diamond Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit Film) Yarn Denier / Ends	10,000/1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>1 5/8</b>	<b>In.</b>	<b>41.4</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424.0	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373.4	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	930	oz/yd <sup>3</sup>	34,484	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	11,000	Denier	12,221	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.19 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Diamond SF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>1 1/8</b>	<b>In.</b>	<b>29</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,344	oz/yd <sup>3</sup>	49,835	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	11,110	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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AstroTurf® guarantees the technical quality of the proposed article.

11jg16

Minimum infill depth of .82 inches at time of completion of infill installation.

Valid through 12/31/17



# ASTROTURF® Rootzone Diamond Blend

## 1.625

### MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit Film) Yarn Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,100/10
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1 5/8	In.	41	mm	D-5823
<b>Face Weight</b>	45	oz/yd <sup>2</sup>	1,525.8	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	73	oz/yd <sup>2</sup>	2,475.1	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	997	oz/yd <sup>3</sup>	36,969	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,100	Denier	17,887	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.19 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17





# ASTROTURF® Diamond Blend

## 1.875

### MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit Film) Yarn Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,100/10
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1 7/8	In.	48	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763.1	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712.5	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	998	oz/yd <sup>3</sup>	37,005	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,100	Denier	17,887	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.37 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17





# ASTROTURF® Rootzone Diamond Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit Film) Yarn Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,100/10
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	1 5/8	In.	41	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763.1	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712.5	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,152	oz/yd <sup>3</sup>	42,715	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,100	Denier	17,887	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.19 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone Diamond Dti 1

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	i-Fiber
Standard Color	Red Clay, Brown
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Slit Film Yarn Denier / Ends	10,000 /1
Texturized Yarn Denier / Ends [Root Zone®]	5,100/10
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>1 1/8</b>	<b>In.</b>	<b>28</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	90	oz/yd <sup>2</sup>	3,051.5	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	118	oz/yd <sup>2</sup>	4,000.9	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	2,880	oz/yd <sup>3</sup>	106,790	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	15,100	Denier	16,776	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/16	In.	4.76	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	9.5	mils	241	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of .83 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Rootzone Diamond SF 1

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Red Clay
UV Stabilized	Yes
Fabric Construction	Knitted
Secondary Yarn Polymer	Texturized Monofilament
Secondary Yarn Color	Brown
Primary Backing	Polyester
Coating Type	Poly-Lock
Slit Film Yarn Denier / Ends	10,000 / 1
Texturized Yarn Denier / Ends [Root Zone®]	5,100 / 10

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	Method
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1	In.	25	mm	D-5823
<b>Face Weight</b>	80	oz/yd <sup>2</sup>	2,712	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	95	oz/yd <sup>2</sup>	3,221	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	2,880	oz/yd <sup>3</sup>	106,790	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	7	oz/yd <sup>2</sup>	237	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	N/A	lbs.	N/A	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>300	lbs.	>136	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	15,000	Denier	16,500	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	428	F°	220	C°	D-789
<b>Machine Gauge</b>	1/6"	In.	0.43	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	13/4.3	mils	250/110	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone Diamond-i

## 1.125

### MATERIALS

Primary Yarn Polymer	Twisted Nylon/Polyethylene
Yarn Cross Section	i-Fiber
Standard Color	Red Clay, Brown
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	10,000 / 6
Texturized Yarn Denier / Ends [Root Zone®]	5,100/10
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	1 1/8	In.	28	mm	D-5823
<b>Face Weight</b>	45	oz/yd <sup>2</sup>	1,525.8	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	73	oz/yd <sup>2</sup>	2,475.1	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,440	oz/yd <sup>3</sup>	53,395	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	15,100	Denier	16,776	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	9.5	mils	241	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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AstroTurf® guarantees the technical quality of the proposed article.

11jg16

Minimum infill depth of .83 inches at time of completion of infill installation.

Valid through 12/31/17





# ASTROTURF® Rootzone Diamond-i

## 1.625

### MATERIALS

Primary Yarn Polymer	Twisted Nylon/Polyethylene
Yarn Cross Section	i-Fiber
Standard Color	Red Clay, Brown
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	10,000 / 6
Texturized Yarn Denier / Ends [Root Zone®]	5,100/10
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	1 5/8	In.	41	mm	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034.3	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	88	oz/yd <sup>2</sup>	2,983.7	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,329	oz/yd <sup>3</sup>	49,279	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	15,100	Denier	16,776	D-TEX	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	9.5	mils	241	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.19 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone Diamond-i

## MATERIALS

Primary Yarn Polymer	Twisted Nylon/Polyethylene
Yarn Cross Section	i-Fiber
Standard Color	Red Clay, Brown
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	10,000 / 6
Texturized Yarn Denier / Ends [Root Zone®]	5,100/10
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>1 1/8</b>	<b>In.</b>	<b>28</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	45	oz/yd <sup>2</sup>	1,525.8	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	73	oz/yd <sup>2</sup>	2,475.1	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,440	oz/yd <sup>3</sup>	43,395	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	15,100	Denier	16,776	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	9.5	mils	241	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of .82 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® LigaTurf Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	76	oz/yd <sup>2</sup>	2,577	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,152	oz/yd <sup>3</sup>	42,715	g/m <sup>3</sup>	HUD 44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	11,000	Denier	12,221	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360 / 100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.1 inches at time of completion of infill installation.

02jg17

Valid through 12/31/17





# ASTROTURF® LigaTurf Rootzone Blend 1.5

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Monofilament Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Nylon Yarn Denier / Ends [Root Zone®]	5,040
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	51	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,248	oz/yd <sup>3</sup>	46,275	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,040	Denier	17,644	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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AstroTurf® guarantees the technical quality of the proposed article.

Minimum infill depth of 1.1 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



**Product name** **LigaTurf RS Pro II CP 240 18/4**

**Application** **Professional**

**Description** **3rd generation football turf with sand-rubber infill; Polytan Monofilament with ENTANGLEMENT technology; 100 % Polytan PE formulation with CoolPlus function; BiColour look; straight without curling, single extrusion uncut, without fibrillation**

Yarn data	Standard unit
<b>Materials</b>	100% Polytan PE
<b>Filament/film</b>	Monofilament straight
<b>Number of filaments</b>	6
<b>Thickness app.</b>	15.7 mils
<b>Average thickness app.</b>	9 mils
<b>Filament width ca.</b>	55 mils
<b>Yarn fineness app.</b>	15120 den
<b>Cross section area app.</b>	496 mil <sup>2</sup>

Construction data	
<b>Pile height stretched app.</b>	1.57 in
<b>Machine gauge</b>	3/4"
<b>Stitch density app.</b>	214 /yd
<b>Number of tufts app.</b>	11483 /yd <sup>2</sup>
<b>Number of filaments app.</b>	137802 /yd <sup>2</sup>
<b>Fibre weight app.</b>	45 oz/yd <sup>2</sup>

Backing construction	
<b>Primary backing 1</b>	100% PP woven fabric, UV stabilised
<b>Primary backing 2</b>	100% PP support layer
<b>Coating</b>	Latex, antibacterial and antifungal, waterproof
<b>Coating weight app.</b>	29 oz /yd <sup>2</sup>
<b>Perforation, hole spacing app.</b>	5.5 in
<b>Perforation, hole diameter min.</b>	.12 in

Product data	
<b>Production technology</b>	Tufting velours
<b>Maximum width</b>	13.1 ft.
<b>Maximum length</b>	depending on installation width
<b>Thickness backing coated app.</b>	.08 in
<b>Total height app.</b>	1.65 in
<b>Total weight app.</b>	80.8 oz/yd <sup>2</sup>

General data	
<b>Turf colour</b>	lime/fieldgreen
<b>Line colour</b>	white or yellows, other colours on request
<b>Elastic layer</b>	Polytan EL/ET insitu

**Maintenance** **Details for maintenance see Polytan maintenance brochure**

In order to maintain our surfaces to the highest and most up to date technical standards, we reserve the right to modify the product data. Slight color variations are determined to production. We advise that the technical values regarding yarn- and construction data as well as weight indications are approximate values and could vary due to technical reasons by +/- 10 %. (March 2014)

# Technical Data Sheet

## Additional information

Product name	<b>LigaTurf RS Pro II CP 240 18/4</b>
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Application	<b>Professional</b>
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Quality data	Standard unit
<b>Water permeability app.</b>	19.7 in/h
<b>Tuft bind app.</b>	9 lb
<b>Tensile strength MD *&gt;</b>	85 lbs/in
<b>Tensile strength CD *&gt;</b>	85 lbs/in
<b>Colour fastness min.</b>	3 Grey scale
	*Rugby > 25N/mm

System design			
Elastic layer	<b>Polytan ET min.</b>	1.38 in	insitu
	<b>Polytan EL min.</b>	1.38 in	insitu
Turf infill-base	<b>Sand</b> hydro classified, clean dried silica sand		
Turf infill-upper	<b>Rubber granules</b> Bionic Fibre, EPDM ST, Smart Infill, RPU, SBR		

Installation data	
<b>Carpet installation</b>	floating
<b>Seam</b>	glued with Polytan wet-adhesive or two component-adhesive

Certificates	-
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In order to maintain our surfaces to the highest and most up to date technical standards, we reserve the right to modify the product data. Slight color variations are determined to production. We advise that the technical values regarding yarn- and construction data as well as weight indications are approximate values and could vary due to technical reasons by +/- 10 %. (March 2014)



# ASTROTURF® 12 SYSTEM 5

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Stadium Green
UV Stabilized	Yes
Fabric Construction	Knitted
Primary Backing	Polyester
Coating Type	Polyurethane 5mm Foam
Nylon Yarn Denier / Ends	5,200 / 8

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<i>Pile Height [Nominal]**</i>	0.5	In.	13	mm	D-5823
Face Weight	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
Total Fabric Weight	122	oz/yd <sup>2</sup>	4,137	g/m <sup>2</sup>	D-5848
Turf Density	4,320	oz/yd <sup>3</sup>	160,185	g/m <sup>3</sup>	HUD-44d
Primary Backing Weight	5	oz/yd <sup>2</sup>	170	g/m <sup>2</sup>	D-5848
Secondary Coating Weight	57	oz/yd <sup>2</sup>	1,933	g/m <sup>2</sup>	D-5848
Tuft Bind	N/A	lbs.	N/A	kg.	D-1335
Grab Tear Strength [Average]	>300	lbs.	>136	kg.	D-2256
Lead Content	<50	ppm	<50	ppm	F-2765
Total Yarn Linear Density	5,200	Denier	5,720	D-Tex	D-1577
Elongation to Break	>30	%	>30	%	D-5034
Yarn Breaking Strength	>20	lbs.	>9.1	kg.	D-5034
Yarn Melting Point	428	F°	220	C°	D-789
Machine Gauge	1/6"	In.	0.43	cm	D-5793
Flammability	TEST PASSED		TEST PASSED		D-2859
Water Permeability w/ Infill	>30	In./hr	>76.2	cm/hr	F-1551
Fiber Thickness [Primary/Secondary]	4.3	mils	110	microns	D-3218
Fabric Width	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.

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Valid through 12/31/17





# ASTROTURF® A12 System 90

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Stadium Green
UV Stabilized	Yes
Fabric Construction	Knitted
Primary Backing	Polyester
Coating Type	100% Acrylic
Nylon Yarn Denier / Ends	5,200 / 8
Pad Option	3/8" Closed Cell Pad

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<i>Pile Height [Nominal]**</i>	0.5	In.	13	mm	D-5823
Face Weight	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
Total Fabric Weight	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
Turf Density	4,320	oz/yd <sup>3</sup>	160,185	g/m <sup>3</sup>	HUD-44d
Primary Backing Weight	5	oz/yd <sup>2</sup>	170	g/m <sup>2</sup>	D-5848
Secondary Coating Weight	5	oz/yd <sup>2</sup>	170	g/m <sup>2</sup>	D-5848
Tuft Bind	N/A	lbs.	N/A	kg.	D-1335
Grab Tear Strength [Average]	>300	lbs.	>136	kg.	D-2256
Lead Content	<50	ppm	<50	ppm	F-2765
Total Yarn Linear Density	5,200	Denier	5,720	D-Tex	D-1577
Elongation to Break	>30	%	>30	%	D-5034
Yarn Breaking Strength	>20	lbs.	>9.1	kg.	D-5034
Yarn Melting Point	428	F°	220	C°	D-789
Machine Gauge	1/6"	In.	0.43	cm	D-5793
Flammability	TEST PASSED		TEST PASSED		D-2859
Water Permeability w/ Infill	>30	In./hr	>76.2	cm/hr	F-1551
Fiber Thickness [Primary/Secondary]	4.3	mils	110	microns	D-3218
Fabric Width	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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Valid through 12/31/17



# ASTROTURF® 12

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Stadium Green
UV Stabilized	Yes
Fabric Construction	Knitted
Primary Backing	Polyester
Coating Type	100% Acrylic
Nylon Yarn Denier / Ends	5,200 / 8

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	Method
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	<b>0.5</b>	<b>In.</b>	<b>13</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	4,320	oz/yd <sup>3</sup>	160,185	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	5	oz/yd <sup>2</sup>	170	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	5	oz/yd <sup>2</sup>	170	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	N/A	lbs.	N/A	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>300	lbs.	>136	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	5200	Denier	5,720	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	428	F°	220	C°	D-789
<b>Machine Gauge</b>	1/6"	In.	0.43	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	4.3	mils	110	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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Valid through 12/31/17

# ASTROGRASS® NSF 38

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Stadium Green/ Turf Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	18 PIC 186/80gm. Non-Woven
Coating Type	Polyurethane
Face Fiber Yarn Denier / Ends	5200/ 8

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>0.5</b>	<b>In.</b>	<b>13</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	38	oz/yd <sup>2</sup>	1,288	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	65	oz/yd <sup>2</sup>	2,204	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	2,736	oz/yd <sup>3</sup>	101,450	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	7	oz/yd <sup>2</sup>	237	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>6	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>150	lbs.	>68	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	5,200	Denier	5,720	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	428	F°	220	C°	D-789
<b>Machine Gauge</b>	3/16	In.	0.48	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	2.36	mils	60	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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AstroTurf® guarantees the technical quality of the proposed article.

11jg16



Valid through 12/31/17



# ASTROGRASS® NSF 48

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Stadium Green/ Turf Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	18 PIC 186/80gm. Non-Woven
Coating Type	Polyurethane
Face Fiber Yarn Denier / Ends	5200/ 8

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>0.5</b>	<b>In.</b>	<b>13</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	75	oz/yd <sup>2</sup>	2,543	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	3,456	oz/yd <sup>3</sup>	128,148	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	7	oz/yd <sup>2</sup>	237	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>6	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>150	lbs.	>68	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	5,200	Denier	5,720	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	428	F°	220	C°	D-789
<b>Machine Gauge</b>	3/16	In.	0.48	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	2.36	mils	60	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.

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# ASTROTURF® JG

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Stadium Green
UV Stabilized	Yes
Fabric Construction	Knitted
Perforation Pattern	8"x8" on center
Primary Backing	Polyester
Nylon Yarn Denier / Ends	5,200 / 8
First Coat	Acrylic
Secondary Coating	Natural Rubber w/ 5 Pick Scrim
Factory Applied Pad	Polyurethane 3mm Foam

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	0.5	In.	13	mm	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	105	oz/yd <sup>2</sup>	3,560	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	4,320	oz/yd <sup>3</sup>	160,185	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	5	oz/yd <sup>2</sup>	170	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	40	oz/yd <sup>2</sup>	1,356	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	N/A	lbs.	N/A	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>300	lbs.	>136	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	5,200	Denier	5,720	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	428	F°	220	C°	D-789
<b>Machine Gauge</b>	1/6"	In.	0.43	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	4.3	mils	110	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.

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Valid through 12/31/17





# StadiaTurf PE 13

## MATERIALS

Primary Yarn Polymer	100% Polyethylene
Yarn Cross Section	Texturized Diamond Monofilament
Standard Color	Field green/Olive green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Face Fiber Yarn Denier / Ends	6,000/ 8

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>0.5</b>	<b>In.</b>	<b>13</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	43	oz/yd <sup>2</sup>	1,458	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	71	oz/yd <sup>2</sup>	2,407	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	3,096	oz/yd <sup>3</sup>	114,799	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>150	lbs.	>68	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	6,000	Denier	6,600	D-TEX	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/16	In.	0.48	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	2.36	mils	60	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.

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Valid through 12/31/17





# ASTROTURF® AstroPlay GT Q40 HD

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<b>Nominal Specification</b>					
<i>Pile Height [Nominal]**</i>	2.5	In.	64	mm	D-5823
Face Weight	40	oz/yd <sup>2</sup>	1,356	g/m <sup>2</sup>	D-5848
Total Fabric Weight	68	oz/yd <sup>2</sup>	2,306	g/m <sup>2</sup>	D-5848
Turf Density	576	oz/yd <sup>3</sup>	21,358	g/m <sup>3</sup>	HUD-44d
Primary Backing Weight	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
Secondary Coating Weight	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
Tuft Bind	>8	lbs.	>3.6	kg.	D-1335
Grab Tear Strength [Average]	>200	lbs.	>91	kg.	D-2256
Lead Content	<50	ppm	<50	ppm	F-2765
Total Yarn Linear Density	11,000	Denier	12,221	D-Tex	D-1577
Elongation to Break	>50	%	>50	%	D-5034
Yarn Breaking Strength	>20	lbs.	>9.1	kg.	D-5034
Yarn Melting Point	248	F°	120	C°	D-789
Machine Gauge	1/2	In.	13	cm	D-5793
Flammability	TEST PASSED		TEST PASSED		D-2859
Water Permeability w/ Infill	>30	In./hr	>76.2	cm/hr	F-1551
Fiber Thickness [Primary/Secondary]	14.4/3.9	mils	365 / 100	microns	D-3218
Fabric Width	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.

AstroTurf® guarantees the technical quality of the proposed article.

12jg16

Minimum infill depth of 1.83 inches at time of completion of infill installation.

Valid through 12/31/17.





# ASTROTURF® AstroPlay GTS 50

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000/1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	34	oz/yd <sup>2</sup>	1,153	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	62	oz/yd <sup>2</sup>	2,102	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	612	oz/yd <sup>3</sup>	22,692	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	12,000	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	264	F°	129	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	13.0	mils	330	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.46 inches at time of completion of infill installation.

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Valid through 12/31/17.





# ASTROTURF® AstroPlay GTS 64

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple Layer Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000/1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.5	In.	64	mm	D-5823
<b>Face Weight</b>	40	oz/yd <sup>2</sup>	1,356	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	68	oz/yd <sup>2</sup>	2,306	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	576	oz/yd <sup>3</sup>	21,358	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	11,111	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	264	F°	129	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.83 inches at time of completion of infill installation.

12jg16

Valid through 12/31/17.





# ASTROTURF® GTX 40

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000/6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	1 5/8	In.	40	mm	D-5823
<b>Face Weight</b>	34	oz/yd <sup>2</sup>	1,153	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	62	oz/yd <sup>2</sup>	2,102	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	612	oz/yd <sup>3</sup>	22,692	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	12,000	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	264	F°	129	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14.4	mils	365	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.46 inches at time of completion of infill installation.

12jg16

Valid through 12/31/17.





# ASTROTURF® AstroPlay GTX 50

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000/6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2	In.	51	mm	D-5823
<b>Face Weight</b>	34	oz/yd <sup>2</sup>	1,153	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	62	oz/yd <sup>2</sup>	2,102	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	612	oz/yd <sup>3</sup>	22,692	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	12,000	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	264	F°	129	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14.4	mils	365	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.46 inches at time of completion of infill installation.

12jg15

Valid through 12/31/17.





# ASTROTURF® AstroPlay GTX 64

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000/6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.5	In.	64	mm	D-5823
<b>Face Weight</b>	40	oz/yd <sup>2</sup>	1,356	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	68	oz/yd <sup>2</sup>	2,306	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	576	oz/yd <sup>3</sup>	21,358	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	12,000	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	264	F°	129	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14.4	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.83 inches at time of completion of infill installation.

12jg17

Valid through 12/31/17.





# ASTROTURF® PGPN 5mm

## MATERIALS

Primary Yarn Polymer	100% Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn Polymer Thatch	Nylon
Secondary Yarn Color	Turf Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	8040/1
Texturized Thatch Denier / Ends	5040/12

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	0.75	In.	19	mm	D-5823
<b>Face Weight</b>	58	oz/yd <sup>2</sup>	1,967	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	122	oz/yd <sup>2</sup>	4,137	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	2,784	oz/yd <sup>3</sup>	103,230	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	56	oz/yd <sup>2</sup>	1,899	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	13,080	Denier	14,388	D-TEX	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/16	In.	0.48	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of .55 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17





# ASTROTURF® PGPN

## MATERIALS

Primary Yarn Polymer	100% Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn Polymer Thatch	Nylon
Secondary Yarn Color	Turf Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	8040/1
Texturized Thatch Denier / Ends	4200/8

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>0.75</b>	<b>In.</b>	<b>19</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	58	oz/yd <sup>2</sup>	1,967	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	86	oz/yd <sup>2</sup>	2,916	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	2,784	oz/yd <sup>3</sup>	103,230	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,240	Denier	13,464	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/16	In.	0.48	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	3.9	mils	99	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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 Minimum infill depth of .55 inches at time of completion of infill installation.

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Valid through 12/31/17





# ASTROTURF® PUREGRASS® 8MM

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Turf Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane 8mm Foam
Yarn Denier / Ends	8,400 / 16

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1.25	In.	32	mm	D-5823
<b>Face Weight</b>	56	oz/yd <sup>2</sup>	1,899	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	153	oz/yd <sup>2</sup>	5,188	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,613	oz/yd <sup>3</sup>	59,809	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	89	oz/yd <sup>2</sup>	3,018	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>300	lbs.	>103	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	8,400	Denier	9,240	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	428	F°	220	C°	D-789
<b>Machine Gauge</b>	3/16	In.	4.76	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of .92 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17





# ASTROTURF® PUREGRASS®

## MATERIALS

Primary Yarn Polymer	100% Nylon
Yarn Cross Section	Diamond Monofilament
Standard Color	Turf Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Yarn Denier / Ends	8,400 / 16

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	<b>1.25</b>	<b>In.</b>	<b>32</b>	<b>mm</b>	D-5823
<b>Face Weight</b>	56	oz/yd <sup>2</sup>	1,899	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	84	oz/yd <sup>2</sup>	2,848	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,613	oz/yd <sup>3</sup>	59,810	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>300	lbs.	>103	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	8,400	Denier	9,240	D-Tex	D-1577
<b>Elongation to Break</b>	>30	%	>30	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	428	F°	220	C°	D-789
<b>Machine Gauge</b>	3/16	In.	4.76	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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Minimum infill depth of .92 inches at time of completion of infill installation.

Valid through 12/31/17





## **ASTROMOD BASIC**

### **SYNTHETIC TURF**

Primary Yarn Polymer	Polyethylene	
Primary Yarn Cross Section	Slit Film	
Primary Yarn Denier	8000 Denier	8800 DTEX
Secondary Yarn Polymer	Nylon	
Secondary Yarn Cross Section	Texturized Monofilament	
Secondary Yarn Denier	6000 Denier	6600 DTEX
UV Stabilized	Yes	
Primary Backing	Woven PP + Woven PP	
Fabric Construction	Tufted	
Tufting Gauge	3/16 inch	0.48 cm
Pile Height	7/8 inch	22 mm
Face Weight	55 oz/sy	1865 g/sm
Tufts	36,500 per sy	43,600 per sm
Coating Type	BioCel Polyurethane	
Coating Weight	26 oz/sy	882 g/sm

### **SHOCK ABSORBING PANEL**

Material	Closed-Cell Olefin	
Thickness	3/4 inch	19 mm
Dimensions	47.25 x 90 inch	1.2 x 2.3 m

### **TOTAL SYSTEM**

Height	1.6 inch	41 mm
GMAX	77 G	

*All values +/- 10%*





## **ASTRO MOD PRO**

### **SYNTHETIC TURF**

Primary Yarn Polymer	100% Polyethylene	
Primary Yarn Cross Section	Slit Film	
Primary Yarn Denier	8000 Denier	8800 DTEX
Secondary Yarn Polymer	Nylon	
Secondary Yarn Cross Section	Texturized Monofilament	
Secondary Yarn Denier	6000 Denier	6600 DTEX
UV Stabilized	Yes	
Primary Backing	Woven PP + Woven PP	
Fabric Construction	Tufted	
Tufting Gauge	3/16 inch	0.48 cm
Pile Height	1 3/8 inch	35 mm
Face Weight	80 oz/sy	2800 g/sm
Tufts	36,500 per sy	43,600 per sm
Coating Type	BioCel Polyurethane	
Coating Weight	26 oz/sy	1000 g/sm

### **SHOCK ABSORBING PANEL**

Material	Closed-Cell Olefin	
Thickness	3/4 inch	19 mm
Dimensions	47.25 x 90 inch	1.2 x 2.3 m

### **TOTAL SYSTEM**

Height	2.125 inch	54 mm
GMAX	77 G	

*All values +/- 10%*





## ASTROMOD SPORT

### SYNTHETIC TURF

Primary Yarn Polymer	Polyethylene	
Primary Yarn Cross Section	Slit Film	
Primary Yarn Denier	8000 Denier	8800 DTEX
Secondary Yarn Polymer	Nylon	
Secondary Yarn Cross Section	Texturized Monofilament	
Secondary Yarn Denier	6000 Denier	6600 DTEX
UV Stabilized	Yes	
Primary Backing	Woven PP + Woven PP	
Fabric Construction	Tufted	
Tufting Gauge	3/16 inch	0.48 cm
Pile Height	1 inch	25 mm
Face Weight	65 oz/sy	2204 g/sm
Tufts	36,500 per sy	43,600 per sm
Coating Type	BioCel Polyurethane	
Coating Weight	26 oz/sy	882 g/sm

### SHOCK ABSORBING PANEL

Material	Closed-Cell Olefin	
Thickness	3/4 inch	19 mm
Dimensions	47.25 x 90 inch	1.2 x 2.3 m

### TOTAL SYSTEM

Height	1.75 inch	44 mm
GMAX	77 G	

All values +/- 10%



# ASTROTURF® Rhino Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament)Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<b>Nominal Specification</b>					
<i>Pile Height [Nominal]**</i>	2.0	In.	51	mm	D-5823
Face Weight	38	oz/yd <sup>2</sup>	1,288	g/m <sup>2</sup>	D-5848
Total Fabric Weight	66	oz/yd <sup>2</sup>	2,238	g/m <sup>2</sup>	D-5848
Turf Density	684	oz/yd <sup>3</sup>	25,362	g/m <sup>3</sup>	HUD 44d
Primary Backing Weight	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
Secondary Coating Weight	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
Tuft Bind	>8	lbs.	>3.6	kg.	D-1335
Grab Tear Strength [Average]	>200	lbs.	>91	kg.	D-2256
Lead Content	<50	ppm	<50	ppm	F-2765
Total Yarn Linear Density	11,000	Denier	12,221	D-Tex	D-1577
Elongation to Break	>50	%	>50	%	D-5034
Yarn Breaking Strength	>20	lbs.	>9.1	kg.	D-5034
Yarn Melting Point	248	F°	120	C°	D-789
Machine Gauge	3/8"	In.	0.95	cm	D-5793
Flammability	TEST PASSED		TEST PASSED		D-2859
Water Permeability w/ Infill	>30	In./hr	>76.2	cm/hr	F-1551
Fiber Thickness [Primary/Secondary]	14/3.9	mils	360 / 100	microns	D-3218
Fabric Width	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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AstroTurf® guarantees the technical quality of the proposed article.

Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Rhino Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	756	oz/yd <sup>3</sup>	28,032	g/m <sup>3</sup>	D-5848
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	11,000	Denier	12,221	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	16/3.9	mils	360 / 100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

Valid through 12/31/17



# ASTROTURF® Rhino Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	76	oz/yd <sup>2</sup>	2,577	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	864	oz/yd <sup>3</sup>	32,037	g/m <sup>3</sup>	HUD 44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	11,000	Denier	12,221	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360 / 100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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 Minimum infill depth of 1.46 inches at time of completion of infill installation.

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Valid through 12/31/17



# ASTROTURF® Rhino M

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000 / 6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	38	oz/yd <sup>2</sup>	1,288	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	66	oz/yd <sup>2</sup>	2,238	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	684	oz/yd <sup>3</sup>	25,363	g/m <sup>3</sup>	HUD 44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	13,332	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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11jg16

Minimum infill depth of 1.46 inches at time of completion of infill installation.

Valid through 12/31/17

# ASTROTURF® Rhino M

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000 / 6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	756	oz/yd <sup>3</sup>	28,032	g/m <sup>3</sup>	HUD 44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	13,332	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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AstroTurf® guarantees the technical quality of the proposed article.

Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rhino M

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000 / 6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	76	oz/yd <sup>2</sup>	2,577	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	864	oz/yd <sup>3</sup>	32,037	g/m <sup>3</sup>	HUD 44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	13,332	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rhino SF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	38	oz/yd <sup>2</sup>	1,288	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	66	oz/yd <sup>2</sup>	2,238	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	684	oz/yd <sup>3</sup>	25,363	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	11,110	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

Valid through 12/31/17

# ASTROTURF® Rhino SF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	756	oz/yd <sup>3</sup>	28,032	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	11,110	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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11jg16

Minimum infill depth of 1.46 inches at time of completion of infill installation.

Valid through 12/31/2017

# ASTROTURF® Rhino SF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	76	oz/yd <sup>2</sup>	2,577	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	864	oz/yd <sup>3</sup>	32,037	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	11,110	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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11jg16

Minimum infill depth of 1.46 inches at time of completion of infill installation.

Valid through 12/31/17

## ASTROTURF® Gridiron Blend HD

### MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<b>Nominal Specification</b>					
<i>Pile Height [Nominal]**</i>	1.5	In.	38	mm	D-5823
Face Weight	38	oz/yd <sup>2</sup>	1,288	g/m <sup>2</sup>	D-5848
Total Fabric Weight	66	oz/yd <sup>2</sup>	2,238	g/m <sup>2</sup>	D-5848
Turf Density	912	oz/yd <sup>3</sup>	33,816	g/m <sup>3</sup>	HUD-44d
Primary Backing Weight	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
Secondary Coating Weight	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
Tuft Bind	>8	lbs.	>3.6	kg.	D-1335
Grab Tear Strength [Average]	>200	lbs.	>91	kg.	D-2256
Lead Content	<50	ppm	<50	ppm	F-2765
Total Yarn Linear Density	11,000	Denier	12,221	D-Tex	D-1577
Elongation to Break	>50	%	>50	%	D-5034
Yarn Breaking Strength	>20	lbs.	>9.1	kg.	D-5034
Yarn Melting Point	248	F°	120	C°	D-789
Machine Gauge	3/8"	In.	0.95	cm	D-5793
Flammability	TEST PASSED		TEST PASSED		D-2859
Water Permeability w/ Infill	>30	In./hr	>76.2	cm/hr	F-1551
Fiber Thickness [Primary/Secondary]	14/3.9	mils	360 / 100	microns	D-3218
Fabric Width	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.1 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Gridiron Blend HD

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,008	oz/yd <sup>3</sup>	37,376	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	11,000	Denier	12,221	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	16/3.9	mils	360 / 100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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AstroTurf® guarantees the technical quality of the proposed article.

11jg16

Minimum infill depth of 1.1 inches at time of completion of infill installation.



Valid through 12/31/17



# ASTROTURF® Q HD

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit-Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene (Monofilament) Yarn Denier / Ends	12,000 / 6
Polyethylene (Slit film) Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	76	oz/yd <sup>2</sup>	2,577	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,152	oz/yd <sup>3</sup>	42,715	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-2256
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	11,000	Denier	12,221	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-5034
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-5034
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360 / 100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.1 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Rhino HD M

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000 / 6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	38	oz/yd <sup>2</sup>	1,288	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	66	oz/yd <sup>2</sup>	2,238	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	912	oz/yd <sup>3</sup>	33,817	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	13,332	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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11jg16

Minimum infill depth of 1.1 inches at time of completion of infill installation.

Valid through 12/31/17



# ASTROTURF® Rhino HD M

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000 / 6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,008	oz/yd <sup>3</sup>	37,376	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	13,332	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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AstroTurf® guarantees the technical quality of the proposed article.

Minimum infill depth of 1.1 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rhino HD M

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field / Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000 / 6
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	76	oz/yd <sup>2</sup>	2,577	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,152	oz/yd <sup>3</sup>	42,716	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>2.7	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>68	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	12,000	Denier	13,332	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>30	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	1/2	In.	1.27	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	14	mils	360	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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Minimum infill depth of 1.1 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Rhino HD SF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	38	oz/yd <sup>2</sup>	1,288	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	66	oz/yd <sup>2</sup>	2,238	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	912	oz/yd <sup>3</sup>	33,817	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	11,110	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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Minimum infill depth of 1.1 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Rhino HD SF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	8,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	42	oz/yd <sup>2</sup>	1,424	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	70	oz/yd <sup>2</sup>	2,373	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,008	oz/yd <sup>3</sup>	37,376	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	8,000	Denier	8,888	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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Minimum infill depth of 1.1 inches at time of completion of infill installation.

Valid through 12/31/2017

# ASTROTURF® Rhino HD SF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<b>Nominal Specification</b>					
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	48	oz/yd <sup>2</sup>	1,627	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	76	oz/yd <sup>2</sup>	2,577	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,152	oz/yd <sup>3</sup>	42,716	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	10,000	Denier	11,110	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness</b>	3.9	mils	100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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Minimum infill depth of 1.1 inches at time of completion of infill installation.

Valid through 12/31/17

# ASTROTURF® 3DX 52

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn Polymer	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
Texturized Yarn Denier / Ends [Root Zone®]	5000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.00	In.	51	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	936	oz/yd <sup>3</sup>	34,707	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	15,000	Denier	16,665	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	3.9/3.9	mils	100 / 100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone 3D Decade

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Monofilament Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Nylon Yarn Denier / Ends [Root Zone®]	5,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	88	oz/yd <sup>2</sup>	2,984	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,080	oz/yd <sup>3</sup>	40,046	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,000	Denier	17,600	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone 3D<sup>3</sup> Blend HD

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Monofilament Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	51	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	88	oz/yd <sup>2</sup>	2,984	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,080	oz/yd <sup>3</sup>	40,046	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,000	Denier	17,600	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone 3D<sup>3</sup> Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Monofilament Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	936	oz/yd <sup>3</sup>	34,707	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,000	Denier	17,600	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.

AstroTurf® guarantees the technical quality of the proposed article.

Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone 3D<sup>3</sup> Blend HD

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Monofilament Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	51	mm	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	88	oz/yd <sup>2</sup>	2,984	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,080	oz/yd <sup>3</sup>	40,046	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,000	Denier	17,600	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17

# ASTROTURF® Rootzone 3D<sup>3</sup> Blend

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Monofilament Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	88	oz/yd <sup>2</sup>	2,984	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,080	oz/yd <sup>3</sup>	40,046	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,000	Denier	17,600	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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11jg16

Valid through 12/31/17

# ASTROTURF® Rootzone 3DM

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament
Standard Color	Field Green/Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	12,000 / 6
Texturized Yarn Denier / Ends [Root Zone®]	5000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	88	oz/yd <sup>2</sup>	2,984	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,080	oz/yd <sup>3</sup>	40,046	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	17,000	Denier	18,700.0	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360 /100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
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 Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone 3DSF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn Polymer	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
Texturized Yarn Denier / Ends [Root Zone®]	5000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.00	In.	51	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	936	oz/yd <sup>3</sup>	34,707	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	15,000	Denier	16,665	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	3.9/3.9	mils	100 / 100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%

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Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® Rootzone 3DSF

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	Slit Film
Standard Color	Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,000 / 1
Texturized Yarn Denier / Ends [Root Zone®]	5000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551 Method
	Value	Units	Value	Units	
<i>Nominal Specification</i>					
<i>Pile Height [Nominal]**</i>	2.00	In.	51	mm	D-5823
Face Weight	60	oz/yd <sup>2</sup>	2,034.3	g/m <sup>2</sup>	D-5848
Total Fabric Weight	88	oz/yd <sup>2</sup>	2,983.7	g/m <sup>2</sup>	D-5848
Turf Density	1,080	oz/yd <sup>3</sup>	40,046	g/m <sup>3</sup>	HUD-44d
Primary Backing Weight	8	oz/yd <sup>2</sup>	271.2	g/m <sup>2</sup>	D-5848
Secondary Coating Weight	20	oz/yd <sup>2</sup>	678.1	g/m <sup>2</sup>	D-5848
Tuft Bind	>8	lbs.	>3.6	kg.	D-1335
Grab Tear Strength [Average]	>200	lbs.	>91	kg.	D-5034
Lead Content	<50	ppm	<50	ppm	F-2765
Total Yarn Linear Density	15,000	Denier	16,665.0	D-Tex	D-1577
Elongation to Break	>50	%	>50	%	D-2256
Yarn Breaking Strength	>20	lbs.	>9.1	kg.	D-2256
Yarn Melting Point	248	F°	120	C°	D-789
Machine Gauge	3/8"	In.	0.95	cm	D-5793
Flammability	TEST PASSED		TEST PASSED		D-2859
Water Permeability w/ Infill	>30	In./hr	>76.2	cm/hr	F-1551
Fiber Thickness [Primary/Secondary]	3.9/3.9	mils	100 / 100	microns	D-3218
Fabric Width	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
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 Minimum infill depth of 1.46 inches at time of completion of infill installation.

11jg16

Valid through 12/31/17



# ASTROTURF® NRG+

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Mono Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,248	oz/yd <sup>3</sup>	46,276	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,000	Denier	17,600	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 10%

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11jg16

Minimum infill depth of 1.1 inches at time of completion of infill installation.

Valid through 12/31/17





# ASTROTURF® NRG

## MATERIALS

Primary Yarn Polymer	Polyethylene
Yarn Cross Section	High Micron Monofilament/Slit Film
Standard Color	Field-Lime Green/Field Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	2 Layer 18 PET/13PP
Coating Type	Polyurethane
Polyethylene Mono Denier / Ends	12,000/6
Polyethylene Slitfilm Denier / Ends	10,000/1
Texturized Yarn Denier / Ends [Root Zone®]	5,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>	<i>Value</i>	<i>Units</i>	<i>Value</i>	<i>Units</i>	<i>Method</i>
<b>Pile Height [Nominal]**</b>	1.5	In.	38	mm	D-5823
<b>Face Weight</b>	52	oz/yd <sup>2</sup>	1,763	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	80	oz/yd <sup>2</sup>	2,712	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,248	oz/yd <sup>3</sup>	46,276	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>8	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,000	Denier	17,600	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 10%

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11jg16

Minimum infill depth of 1.1 inches at time of completion of infill installation.

Valid through 12/31/17



# ShockWave 430



## Specification Sheet<sup>1</sup>

ShockWave 430 is a shock attenuation and synthetic aggregate technology designed for the use beneath synthetic turf designed to achieve optimum advanced artificial athlete performance. Additionally, the technology delivers high fluid and air transmissivity and low thermal gradient between sub-grade and turf.

Enplast Technology Systems, LLC  
June 1, 2016

Material Properties	Unit	Values <sup>1</sup>
• Composition	Composite	Thermoset Elastomer, Polyolefin Composite
• Composite Ballast	lbs/ft <sup>2</sup> (kg/m <sup>2</sup> )	1.08(5.2)
• Nominal Thickness	mils(mm)	430(11)
• Core Thickness	mils(mm)	150(3.8)
• Thermal and Humid Aging <sup>3</sup>	%	<1%
• Water Absorption <sup>4</sup>	lbs/ft <sup>2</sup> (kg/m <sup>2</sup> )	0.02(<0.06)

### Material Properties

• Tensile Strength <sup>5</sup>	lbs/ft(kN/m)	(MD)1,100 (18.1)	(TD) 822 (12)
• Elongation at Break <sup>6</sup>	%	(MD) 60	(TD) 101
• Energy Restitution <sup>7</sup>	lbs/sf	1,000	5,000 10,000
	%(min)	(100%)	(95%) (70%)
• Coefficient of Linear Thermal Expansion <sup>14</sup>	in/ft	0.003	

### Hydraulic Properties

• Transmissivity <sup>8</sup>	gpm/ft(m <sup>2</sup> /sec)	145 (3 x 10 <sup>-2</sup> )
• Permeability <sup>9</sup> (Perforated)	gal/min/sf	>40
• Infiltration Ratio <sup>10</sup> (Perforated)	in/hr	42

### Shock-Absorbing Properties

• Impact Attenuation (Gmax <sup>11</sup> )	100 - 80
• HIC <sup>10</sup>	UPON REQUEST
• Advance Artificial Athletes <sup>12</sup>	UPON REQUEST

### Chemical Properties

• Polycyclic Aromatic Hydrocarbon <sup>13</sup>	No detectible level
• Common Metals <sup>14</sup>	No dispersion above limit

### Dimensions and Delivery

- The product shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring from 4 ft. in width 206 ft. in length.
- The typical truckload quantity is 60 rolls.
- Custom roll lengths available upon request.

#### Notes:

1. Unless indicated otherwise, values shown are typical values. Brief descriptions of test procedures are given in the following notes.
2. Unit weight of the composite ballast as a measure to stabilize product during installation and resist wind movement.
3. Response to thermal and humid aging tested in accordance with ASTM D2126-09.
4. Water absorption tested in accordance with ASTM D3575-08, time of immersion 48 hours.
5. Tensile strength determined in accordance with ASTM D4595 Modified using test specimens of 100mm (4 in) x 200mm (8 in) strips, initial grip separation of 100mm (4 in), and elongation at break calculated by grip separation.
6. Enplast modified ASTM D3575 Compression set (15 min load set read at transducer)
7. Transmissivity determined in accordance with ASTM D4716, under 5.8 kpa (120 psf) and hydraulic gradient 1%.
8. Permeability ASTM 2434
9. Infiltration rate BS 7044-4
10. Shock absorbing Gmax and HIC tested in an infilled synthetic turf field in accordance with ASTM 0716. HIC varies based upon turf pile height and infill type and ratios.
11. Advanced Artificial Athletes tested in an infilled synthetic turf field in accordance with FIFA 01, 04a, 05a, 13. Result varies based upon turf pile height and infill type.
12. EPA 8270C SIM PAHs (Solid) tested by Eurofins Calscience test number En-plast 16-01-1335.
13. EPA 6010B-EPA 7471A tested by Curtis & Tompkins test number En-plast 272962.
14. ASTM D696 mod.



# ASTROTURF® Legend

## MATERIALS

Primary Yarn Polymer	Polyethylene-Nylon Copolymer
Yarn Cross Section	Legend Monofilament
Standard Color	Field Green/Lime Green
UV Stabilized	Yes
Fabric Construction	Tufted
Secondary Yarn	Texturized Monofilament
Secondary Yarn Color	Green
Primary Backing	Triple-Lock Composite
Coating Type	Polyurethane
Polyethylene Yarn Denier / Ends	10,600 / 6
Texturized Nylon Yarn Denier / Ends [Root Zone®]	6,000/8
AstroFlect™	Available

Finish Fabric	English System		Metric System		ASTM Test F-1551
	Value	Units	Value	Units	
<i>Nominal Specification</i>					<i>Method</i>
<b>Pile Height [Nominal]**</b>	2.0	In.	51	mm	D-5823
<b>Face Weight</b>	60	oz/yd <sup>2</sup>	2,034	g/m <sup>2</sup>	D-5848
<b>Total Fabric Weight</b>	88	oz/yd <sup>2</sup>	2,984	g/m <sup>2</sup>	D-5848
<b>Turf Density</b>	1,080	oz/yd <sup>3</sup>	40,046	g/m <sup>3</sup>	HUD-44d
<b>Primary Backing Weight</b>	8	oz/yd <sup>2</sup>	271	g/m <sup>2</sup>	D-5848
<b>Secondary Coating Weight</b>	20	oz/yd <sup>2</sup>	678	g/m <sup>2</sup>	D-5848
<b>Tuft Bind</b>	>10	lbs.	>3.6	kg.	D-1335
<b>Grab Tear Strength [Average]</b>	>200	lbs.	>91	kg.	D-5034
<b>Lead Content</b>	<50	ppm	<50	ppm	F-2765
<b>Total Yarn Linear Density</b>	16,600	Denier	18,260.0	D-Tex	D-1577
<b>Elongation to Break</b>	>50	%	>50	%	D-2256
<b>Yarn Breaking Strength</b>	>20	lbs.	>9.1	kg.	D-2256
<b>Yarn Melting Point</b>	248	F°	120	C°	D-789
<b>Machine Gauge</b>	3/8"	In.	0.95	cm	D-5793
<b>Flammability</b>	TEST PASSED		TEST PASSED		D-2859
<b>Water Permeability w/ Infill</b>	>30	In./hr	>76.2	cm/hr	F-1551
<b>Fiber Thickness [Primary/Secondary]</b>	14/3.9	mils	360/100	microns	D-3218
<b>Fabric Width</b>	15	Ft.	4.6	M	None

Note: Any change from the specified values is considered a special product that will require confirmation from manufacturing. All values are ± 5%  
 AstroTurf® has the right to modify technical specifications on the above-mentioned product. Delivered products can slightly differ from the technical data.  
 AstroTurf® guarantees the technical quality of the proposed article.  
 Minimum infill depth of 1.46 inches at time of completion of infill installation.

02gj17

Valid through 12/31/17





SYNLAWN®



sportgroup  
THE SURFACE SPECIALISTS

### Warranty on AstroTurf® Synthetic Turf

**AstroTurf Corporation**, ("AstroTurf") warrants the synthetic grass surface at SAMPLE (the "Project") for a period of eight (8) years from the date of substantial completion of **product installation** against defects in materials and/or workmanship, including ultraviolet degradation, excessive fading, seam rupture or dislodgment. AstroTurf will repair or replace, as it deems necessary, those materials that exhibit such defects resulting from materials or workmanship, at no cost to the Owner.

AstroTurf also guarantees that the average G-Max level of its field will not exceed 175 for the duration of the warranty. If the average of the G-Max readings exceed 175 during the warranty period, AstroTurf will take whatever measures necessary, at no cost to the Owner, to return the G-Max scores to, or below, 175. The recommendations for proper maintenance of your AstroTurf surface, as outlined in our 'Owner's Manual and Guidelines' (attached hereto), shall be considered in determining neglect or proper maintenance of the synthetic grass surface and shall be considered an integral part of this warranty.

This warranty, specifically, does not pertain to or obligate AstroTurf in any way regarding material applied or labor performed which was not under AstroTurf's control or which was supplied or performed by others who are not parties to the performance contract or this warranty. Assistance or recommendations provided to the Owner or his representatives or AstroTurf's approval of Owner's or his representatives' designs, plans or drawings in no way extend this warranty to materials or workmanship beyond those specifically supplied or controlled by AstroTurf. This warranty will be voided if any other contractor or turf manufacturer other than AstroTurf does any service or maintenance on the subject field, with the exception of employees of Owner who have been certified by AstroTurf to provide the service or maintenance or employees of Owner who follow the Maintenance Guidelines provided for Owner by AstroTurf.

AstroTurf does not warrant against normal wear and tear, as determined by an independent lab specializing in synthetic grass. AstroTurf also does not warrant against damage caused, directly or indirectly, by accident, improper use, negligence, abuse, neglect, vandalism, machinery, metal cleats or metal spiked shoes, animals, fire, flood, chemical reactions, static or dynamic loads exceeding AstroTurf specifications at the time of substantial completion of installation, the driving of motorized vehicles on the surface that exceed 2500 lbs., the driving of motorized vehicles under 2500 lbs at a speed of more than 5 miles per hour, improper or faulty subsurface preparation, failure of the subsurface after installation including settling of the surface, the use of dry cleaning fluids or improper cleaning methods, change in water table, exposure to light other than natural light or approved artificial light, or other acts of God.

AstroTurf's obligations under this warranty are restricted to the repair or, at its sole option, replacement of all or a portion of the affected parts covered by this warranty. The remedy of repair or replacement set forth in this warranty shall be the sole remedy and AstroTurf shall have no other obligations or liability in connection with any matter or thing, including without limitation, damages for personal injury or damages related to lost revenue, increased costs, downtime costs and all other indirect or consequential damages.





SYNLAWN®



sportgroup  
THE SURFACE SPECIALISTS

This warranty is expressly in lieu of all conditions and warranties expressed or implied in fact or in law or otherwise, including without limitation, any implied conditions or warranties as to merchantability or fitness for a particular purpose. No person or party is authorized to create any obligation or liability for AstroTurf other than the person authorized to execute this warranty for AstroTurf, and only the guarantee expressed herein shall apply.

The obligations of AstroTurf® under the warranty are subject to full payment of all monies due to AstroTurf for materials and/or labor related to the above referenced Project. AstroTurf will handle all warranty claims promptly so long as the Owner's account is in good standing at the time of the claim. Furthermore, all claims by the Owner made under the foregoing warranty shall be invalid and null and void unless made in writing to AstroTurf within eight (8) years from the date of substantial completion of the Project and within thirty (30) days of the Owner learning of the cause giving rise to its claim. This warranty is not transferable and is made between the parties listed below.

Date of Substantial Completion: \_\_\_\_\_

Issued To Owner: \_\_\_\_\_

Project Location: \_\_\_\_\_

\_\_\_\_\_

Expiration Date: \_\_\_\_\_

Approved by **AstroTurf Corporation**:

By: \_\_\_\_\_

Date:    /    /   0000

Its:    Vice President of Operations

Witness: \_\_\_\_\_

Date:    /    /   0000

AstroTurf® is a registered trademark of the United States Patent and Trademark Office.





ASTRLLC-01

KAZIM

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
11/15/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> <b>Scott Danahy Naylon LLC</b> 300 Spindrift Drive Amherst, NY 14221	<b>CONTACT NAME:</b> <b>PHONE (A/C, No, Ext): (716) 633-3400</b> <b>FAX (A/C, No): (716) 633-4306</b> <b>E-MAIL ADDRESS: postmaster@sdnins.com</b>
<b>INSURER(S) AFFORDING COVERAGE</b>	
INSURER A : <b>Great American E&amp;S Insurance Company</b>	
INSURER B : <b>Colony Insurance Company</b>	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

**INSURED**  
**AstroTurf Corporation**  
 2680 Abutment Road, SE  
 Dalton, GA 30721

**COVERAGES****CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
<b>A</b>	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <input checked="" type="checkbox"/> <b>EXCESS LIAB</b> <input checked="" type="checkbox"/> CLAIMS-MADE DED    RETENTION \$			<b>XS6420606-08</b>	<b>11/14/2017</b>	<b>11/14/2018</b>	EACH OCCURRENCE \$ <b>5,000,000</b> AGGREGATE \$ <b>5,000,000</b> \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y / N    N / A If yes, describe under DESCRIPTION OF OPERATIONS below						PER STATUTE    OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
<b>B</b>	<b>Warranty</b>			<b>103GL0001407-04</b>	<b>11/14/2017</b>	<b>11/14/2018</b>	<b>Each Insured Warrant</b> <b>5,000,000</b>
<b>B</b>	<b>Warranty</b>			<b>103GL0001407-04</b>	<b>11/14/2017</b>	<b>11/14/2018</b>	<b>Aggregate</b> <b>10,000,000</b>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
 Policy provides coverage for Warranties issued during the policy period for eight years from completion date of the project

**CERTIFICATE HOLDER****CANCELLATION**

SAMPLE CERTIFICATE

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE





ASTRLLC-01

KAZIM

**CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY)

11/15/2017

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<b>PRODUCER</b> <b>Scott Danahy Naylon LLC</b> <b>300 Spindrift Drive</b> <b>Amherst, NY 14221</b>	<b>CONTACT NAME:</b> <b>PHONE (A/C, No, Ext): (716) 633-3400</b>	<b>FAX (A/C, No): (716) 633-4306</b>
	<b>E-MAIL ADDRESS: postmaster@sdnins.com</b>	
<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
<b>INSURED</b>  <b>AstroTurf Corporation</b> <b>2680 Abutment Road, SE</b> <b>Dalton, GA 30721</b>	<b>INSURER A : Great American E&amp;S Insurance Company</b>	
	<b>INSURER B : Colony Insurance Company</b>	
	<b>INSURER C :</b>	
	<b>INSURER D :</b>	
	<b>INSURER E :</b>	
<b>INSURER F :</b>		

**COVERAGES****CERTIFICATE NUMBER:****REVISION NUMBER:**

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INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	<b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$	
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$	
<b>A</b>	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <input checked="" type="checkbox"/> <b>EXCESS LIAB</b> <input checked="" type="checkbox"/> CLAIMS-MADE DED <input type="checkbox"/> RETENTION \$			<b>XS6420606-08</b>	<b>11/14/2017</b>	<b>11/14/2018</b>	EACH OCCURRENCE \$ <b>5,000,000</b> AGGREGATE \$ <b>5,000,000</b> \$	
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y / N If yes, describe under DESCRIPTION OF OPERATIONS below		<b>N / A</b>				<input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$	
<b>B</b>	<b>Warranty</b>			<b>103GL0001407-04</b>	<b>11/14/2017</b>	<b>11/14/2018</b>	<b>Each Insured Warrant</b>	<b>5,000,000</b>
<b>B</b>	<b>Warranty</b>			<b>103GL0001407-04</b>	<b>11/14/2017</b>	<b>11/14/2018</b>	<b>Aggregate</b>	<b>10,000,000</b>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
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**CERTIFICATE HOLDER****CANCELLATION**

SAMPLE CERTIFICATE

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



The first name in turf  ...and all that's around it.

John Tortelli  
Procurement & Contract Specialist  
Cooperative Educational Services (CES)  
4216 Balloon Park RD NE  
Albuquerque, NM 87109-5801  
505-344-5470 ext. 129  
505-715-5827 Direct Fax  
[john@ces.org](mailto:john@ces.org)

**RE: Notice to Change Name of Contract Holder & Add Products**

Please note that AstroTurf wishes to change the name of the contract from ProGrass, LLC to AstroTurf Corporation.

As of October 2016, the SportGroup has purchased both ProGrass, LLC & AstroTurf Corporation & wishes to move forward by marketing & promoting the combined market offerings under the AstroTurf Corporation name.

AstroTurf Corporation agrees to guarantee to perform all obligations under this contract, as per the "Novation" clause in AEPA IFB 013 Part A Terms & Conditions (Page 19 of Part A General Terms & Conditions).

Please see attached also to complete the name change:

- Additional Products offered
  - Cut-Sheets
  - Pricing

Sincerely,



Matt Olds  
Sales Support Director  
AstroTurf Corporation  
(732) 677-0484 (P)  
[molds@astroturf.com](mailto:molds@astroturf.com)



## **2018-2020 SPECIAL BUY AGREEMENT**

THIS AGREEMENT is entered into by and between the ESUCC and Securly Inc. was created in statute to coordinate the activities of Nebraska's 17 Educational Service Units. The Educational Service Unit Coordinating Council was created by LB 603 in 2007 and officially came into existence on July 1, 2008. Cooperative Purchasing is a Project of ESUCC that has been in existence since 1968 with the purpose of providing the Educational Service Unit (ESU) member school districts ("Members") of Nebraska an opportunity to secure the maximum procurement value through cooperative synergies. The Educational Service Unit Coordinating Council (ESUCC) Advisory group serves as the steering committee for new and future cooperative buys statewide under its direction. A chief executive officer coordinates the statewide purchasing agreement between educational service units and their school districts and other serviceable entities. The Director of Cooperative Purchasing manages the program with the guidance of the ESUCC, Advisory Board, and the Fiscal Agent. ESUCC serves 17 ESUs that provide a statewide network of educational opportunities to approximately 245 school districts and more than 300,000 students.

In consideration of mutual covenants, the parties agree as follows:

- 1. Scope of the Contract.** The Contractor shall provide Members the opportunity to purchase the goods and/or services as defined in **Exhibit A**, which is attached hereto and incorporated herein by this reference, at the prices set forth in this Agreement and its Exhibits.
- 2. Payment Terms/Payment Schedule.** Members shall pay for services rendered and/or for accepted goods on the terms and payment schedule as set forth in **Exhibit B** which is attached hereto and incorporated herein by this reference. Prices listed in Exhibit B shall remain in effect during the term of this Agreement unless agreed otherwise by the parties in writing.
- 3. Administrative Fee.** Contractor shall submit to ESUCC as an administrative fee a sum equal to two percent (2%) of the total gross dollar volume, less freight of all goods and services and excluding annual support and maintenance purchased by the ESUCC, ESUs, and Members. This fee will be submitted to ESUCC on a quarterly basis beginning three months from the Effective Date of this Agreement for all transactions completed and paid during said quarter.
- 4. Term.** This Agreement is effective on April 6, 2018 ("Effective Date") and shall continue until 12:00 midnight (CST) on June 30, 2021, unless terminated earlier as provided by this Agreement or by law.

**5. Governing Law; Designation of Forum.** This Agreement is governed by and construed in accordance with the laws of the State of Nebraska. Any action to enforce this Agreement must be brought in the state or federal courts of the State of Nebraska. Mandatory and exclusive venue for any disputes shall be in Sarpy County, Nebraska.

**6. Student Privacy Protections.**

A. **Definition of Data.** Data include all Personally Identifiable Information (PII), Member Data, and other non-public information. Data include, but are not limited to, student data, metadata, and user content.

B. **Definition of Member Data.** Member Data includes all PII and other information that is not intentionally made generally available by ESUCC or its Members on public websites or publications, including but not limited to business, administrative and financial data, intellectual property, and student and personnel data and metadata.

C. **Definition of Personally Identifiable Information.** Personally Identifiable Information includes but is not limited to: personal identifiers such as name, address, phone number, date of birth, Social Security number, and student or personnel identification number; "personal information" as used in Neb. Rev. Stat. § 84-712.05 and personally identifiable information contained in student education records as that term is defined in the Family Educational Rights and Privacy Act, 20 USC 1232g.

D. **Definition of User.** User means a participant, instructor, or administrator of ESUCC or its Members who are authorized with login credentials by ESUCC or its Members to use the goods and/or services provided by this Agreement.

E. **Data De-Identification.** Contractor may use deidentified Data for product development, research, or other purposes. De-identified Data will have all direct and indirect personal identifiers removed. This includes, but is not limited to, name, ID numbers, date of birth, demographic information, location information, and school ID. Furthermore, Contractor agrees not to attempt to re-identify deidentified Data and not to transfer de-identified Data to any party unless that party agrees not to attempt reidentification.

F. **Marketing and Advertising.** Contractor will not use any Data to advertise or market to students or their parents. Advertising or marketing may be directed to the ESUCC, Members, or their school districts only if student information is properly de-identified."

G. **Modification of Terms of Service.** Contractor will not change how Data are collected, used, or shared under the terms of this Agreement in any way without advance notice to and consent from the ESUCC, the Members, and the affected school district(s).

H. **Data Collection.** Contractor will only collect Data necessary to fulfill its duties as outlined in this Agreement.

- I. **Data Use.** Contractor will use Data only for the purpose of fulfilling its duties and providing services under this Agreement, and for improving services under this Agreement.
- J. **Data Mining.** Contractor is prohibited from mining Data for any purposes other than those agreed to by the parties. Data mining or scanning of user content for the purpose of advertising or marketing to students or their parents is prohibited.
- K. **Data Sharing.** Data cannot be shared with any additional parties without prior written consent of the User except as required by law.
- L. **Data Transfer or Destruction.** Contractor will ensure that all Data in its possession and in the possession of any subcontractors, or agents to which the Contractor may have transferred Data, are destroyed or transferred to the ESUCC under the direction of the ESUCC when the Data are no longer needed for their specified purpose, at the request of the Member.
- M. **Rights and License in and to Data.** Parties agree that all rights, including all intellectual property rights, shall remain the exclusive property of the Member, and Contractor has a limited, nonexclusive license solely for the purpose of performing its obligations as outlined in the Agreement. This Agreement does not give Contractor any rights, implied or otherwise, to Data, content, or intellectual property, except as expressly stated in the Agreement. This includes the right to sell or trade Data.
- N. **Access.** Any Data held by Contractor will be made available to a Member upon request by the Member.
- O. **Security Controls.** Contractor will store and process Data in accordance with industry best practices. This includes appropriate administrative, physical, and technical safeguards to secure Data from unauthorized access, disclosure, and use. Contractor will conduct periodic risk assessments and remediate any identified security vulnerabilities in a timely manner. Contractor will also have a written incident response plan, to include prompt notification of the Member in the event of a security or privacy incident, as well as best practices for responding to a breach of PII. Contractor agrees to share its incident response plan upon request.
- P. **Response to Legal Orders, Demands or Requests for Data.** Except as otherwise expressly prohibited by law, Contractor will:
  - (1) Promptly notify ESUCC and Members of any subpoenas, warrants, or other legal orders, demands or requests received by Contractor seeking Data;
  - (2) Consult with ESUCC and Members regarding its response;
  - (3) Cooperate with ESUCC's and Member's reasonable requests in connection with efforts by them to intervene and quash or modify the legal order, demand or request; and
  - (4) Upon ESUCC's or a Member's request, provide them with a copy of its response.

## **7. Termination.**

A. ESUCC may terminate this Agreement in whole or part if funding from federal, state, or other sources for ESUCC or its Members is not obtained and continued at levels sufficient to allow for purchase of the good and/or services in the indicated quantities or term. ESUCC shall notify the Contractor as soon as practicable if funds to meet ESUCC's or Members' obligations become unavailable. The determination of ESUCC as to the insufficiency of funds is conclusive.

B. Each party may terminate this Agreement if the other party breaches or is in default of any material obligation hereunder which default is incapable of cure, or which, being capable of cure, has not been cured within 30 days after receipt of written notice of such default or such additional cure period as the nondefaulting party may authorize in writing.

C. Each party may terminate this Agreement by written notice if federal or state laws or rules are modified or interpreted in a way that the services are no longer allowable or appropriate for purchase under this contract or are no longer eligible for the funding proposed for payments authorized by this contract.

D. ESUCC may terminate this Agreement, in whole or in part, by written notice to the Contractor and may regard the Contractor in default of this Agreement if the Contractor becomes:

- (1) Insolvent;
- (2) Makes a general assignment for the benefit of creditors;
- (3) Files a voluntary petition of bankruptcy;
- (4) Suffers or permits the appointment of a receiver for its business or assets;
- (5) Becomes subject to any proceeding under any bankruptcy or insolvency law, whether domestic or foreign; or
- (6) Has wound up or liquidated, voluntarily or otherwise.

E. ESUCC may terminate this Agreement, in whole or in part, immediately, without notice, if the Contractor is debarred or suspended from performing services on any public contracts.

F. The parties may terminate this Agreement without cause by mutual written consent or by either party with a minimum of 90 days written notice.

G. Upon the termination for any reason or expiration of this Agreement, the Contractor promptly must return to ESUCC all papers, materials and other property of ESUCC then in its possession, including but not limited to all work in progress as is appropriate in its then existing form to ESUCC.

**8. Indemnification.**

A. The Contractor hereby waives and agrees to indemnify and save harmless ESUCC and the ESUs and their officials, agents, employees, and volunteers (hereinafter collectively referred to as "Indemnities"), against any and all claims of injuries, death, damage to property, liabilities, judgments, costs and expenses which may otherwise accrue against Indemnities in consequence of the granting of this Agreement or which may otherwise result therefrom.

B. The Contractor shall, at his or her own expense, appear, defend and pay all charges of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith.

C. If any judgment shall be rendered against ESUCC or the ESUs in any such action, the Contractor shall, at his or her own expense, satisfy and discharge the same.

D. Any performance bond or insurance protection required by this contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify and save harmless and defend the Indemnities as herein provided.

E. The Contractor's obligation to indemnify and save harmless any Indemnities will survive the expiration or termination of this Agreement by either party for any reason.

**9. Insurance.** Contractor shall secure and keep in force during the term of this Agreement the following insurance coverages from insurance companies or government self-insurance pools authorized to do business in Nebraska:

A. Commercial general liability, including premises or operations, contractual, and products or completed operations coverages (if applicable), with minimum liability limits of \$1,000,000 per person and \$5,000,000 per occurrence; and


B. If applicable, workers compensation coverage meeting all statutory requirements.

The Contractor shall furnish a certificate of insurance to the undersigned ESUCC representative prior to commencement of this Agreement. Failure to provide insurance as required in this agreement is a material breach of contract entitling ESUCC to terminate this Agreement immediately.

**10. Public Records.** The Contractor acknowledges that ESUCC must comply with Neb. Rev. Stat. § 84-712 through § 84-713 and release public records as defined law upon request, which may include this Agreement and all records created and maintained in relation to this Agreement.

**11. Publicity.** ESUCC does not endorse the goods or services of the Contractor. Except for listing ESUCC as a client during the term of this Agreement, news releases or

other publicity concerning this Agreement must not be made by the Contractor without the prior written approval of ESUCC.

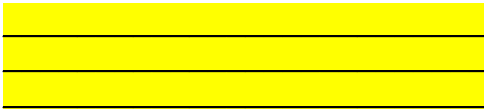
- 12. Drug/Alcohol/Tobacco/Weapons Free Workplace.** The Contractor and all subcontractors, if any, shall not manufacture, sell, distribute, dispense, possess or use controlled substances or marijuana, as defined by Nebraska law, during the performance of this Agreement while on ESUCC, ESU, or Member premises or at ESUCC, ESU, or Member related functions. The Contractor and all subcontractors, if any, shall not possess any weapon, as defined by Nebraska law and the federal "Drug-Free Schools Act," on ESUCC, ESU, or Member property or at ESUCC, ESU, or Member related functions. The Contractor and all subcontractors, if any, also shall adhere to all ESUCC, ESU, and Member policies and regulations that prohibit the possession, distribution, sale, dispensation, or use of any alcohol or tobacco products while on ESUCC, ESU, or Member premises or at ESUCC, ESU, or Member related functions. Failure to comply with this provision may be considered a material breach. ESUCC may suspend or terminate the Contractor, subcontractor, or both if it violates these laws, regulations, or policies or this provision.
- 13. Nondiscrimination.** The Contractor and all subcontractors, if any, shall not discriminate against any employee or applicant who is to be employed for performance of this Agreement with respect to his or her hire, tenure, terms, conditions, or privileges of employment, because of his race, color, religion, sex, disability, or national origin.
- 14. Independent Contractor.** Contractor is an independent contractor under this contract and is not an ESUCC, ESU, or Member employee for any purpose. The Contractor retains sole and absolute discretion in the manner and means of carrying out Contractor's activities and responsibilities under this Agreement, except to the extent specified in this Agreement.
- 15. Employment Eligibility Verification.** The Contractor shall use a federal immigration verification system to determine the work eligibility status of employees hired on or after October 1, 2009 and who are physically performing services within the State of Nebraska. If the Contractor employs or contracts with any subcontractor in connection with this Agreement, the Contractor shall include a provision in the contract requiring the subcontractor to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.
- 16. Taxpayer Identification.** Contractor's federal employer identification number is:  

- 17. Sales Tax.** ESUCC, ESUs, and Members are exempt from sales tax and shall not pay any sales tax under this Agreement. ESUCC, ESUs and/or Members will provide the Contractor with applicable sales tax exemption certificates upon written request.
- 18. Notice.** Each party giving any Notice ("Notice") under this Agreement must give written Notice by personal delivery, registered or certified Mail (in each case, return

receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid.) Notice shall be sent to the following addressees at the following addresses:

ESUCC: ESU Coordinating Council  
Attn: Craig Peterson  
1292 East 4<sup>th</sup> Street  
Ainsworth, NE 69210

With copy to:

Steve Williams, Legal Counsel  
KSB School Law, PC, LLO  
Cornhusker Plaza  
301 South 13th Street, Suite 210  
Lincoln, NE 68508

Contractor: 

Notice is effective only if the party giving the Notice has complied with this section.

- 19. Warranties and Specifications.** Contractor shall be responsible for providing to Members all manufacturer warranties on all goods and services. Contractor shall provide Members with all attachments normally supplied by the manufacturer and/or supplier. Complete product specification sheets or brochures must be provided to Members, ESUs, or ESUCC upon request.
- 20. Entire Agreement.** The Agreement is the complete and exclusive expression of the parties' agreement on the matters contained in this Agreement. All prior and contemporaneous negotiations and agreements between the parties on the matters contained in this Agreement are expressly merged into and superseded by this Agreement.
- 21. Amendments and Modifications.** The parties may amend or modify this Agreement only by a signed, written agreement by both parties that identifies itself as an amendment or modification to this Agreement. No other alternations in the terms of this agreement shall be valid or binding.
- 22. Waivers.** The parties may waive any provision in this Agreement only by a writing executed by the party or parties against whom the waiver is sought to be enforced. No failure or delay: (1) In exercising any right or remedy, **or** (2) In requiring the satisfaction of any condition under this Agreement, **and** (3) No act, omission, or course of dealing between the parties operates as a waiver or estoppel of any right, remedy or condition. A waiver made in writing on one occasion is effective only in that instance and only for the purpose stated. A waiver once given is not to be construed as a waiver on any future occasion or against any other Person.

- 23. Severability.** If any provision of this Agreement is determined to be unenforceable, the remaining provisions of this Agreement remain in full force, if the essential terms and conditions of this Agreement for each party remain enforceable.
- 24. Counterparts.** The parties may execute this Agreement in multiple counterparts, each of which constitutes an original, and all of which, collectively, constitute only one agreement. The signatures of all of the parties need not appear on the same counterpart, and delivery of an executed counterpart signature page by facsimile or other electronic means is as effective as executing and delivering this Agreement in the presence of the other parties to this Agreement. This Agreement is effective upon delivery of one executed counterpart from each party to the other parties. In proving this Agreement, a party must produce or account only for the executed counterpart of the party to be charged.
- 25. Force Majeure.** Neither party shall be liable for any loss or damage suffered by the other party, directly or indirectly, as a result of the non performing party's failure to perform, or delay in performing, any of its obligations contained in this contract (except any obligations to make payments for services rendered or accepted goods received before the failure to perform or the delay in performance), where, in the opinion of ESUCC, such failure or delay is caused by circumstances beyond the non performing party's control or which make performance commercially impracticable, including but not limited to fire, flood, storm or other natural disaster, explosion, accident, war, riot, civil disorder, government regulations or restrictions of any kind or any acts of any government, alien enemy, judicial action, power failure, acts of God, or other natural circumstances. This Force Majeure provision excludes economic hardship, changes in market conditions, and insufficiency of funds on the part of Contractor.
- 26. Assignment.** This Agreement binds the parties and their respective successors and assignees. The Contractor shall not assign or otherwise dispose of this Agreement or any duty, right, or responsibility contemplated in this Agreement to any other person without the previous written consent of ESUCC.
- 27. Subcontractors.** The Contractor shall not subcontract services or any part of this Agreement without the prior written consent of ESUCC.
- 28. Captions.** The descriptive headings of the Articles, Sections and subsections of this Agreement are for convenience only, do not constitute a part of this Agreement, and do not affect this Agreement's construction or interpretation.
- 29. Rights and Remedies Cumulative.** Any enumeration of ESUCC's rights and remedies set forth in this Agreement is not exhaustive. ESUCC's exercise of any right or remedy under this Agreement does not preclude the exercise of any other right or remedy. All of the ESUCC's rights and remedies are cumulative and are in addition to any other right or remedy set forth in this Agreement, any other agreement between the parties, or which may now or subsequently exist at law or in equity, by statute or otherwise.

**30. Relationship Among Parties.** This Agreement creates no relationship of joint venture, partnership, limited partnership, agency, or employer- employee between the parties, and the parties acknowledge that no other facts or relations exist that would create any such relationship between them. Neither party has any right or authority to assume or to create any obligation or responsibility on behalf of the other party except as my from time to time be provided by written instrument signed by both parties.

**31. Rules of Construction.** The parties hereto have each been represented by counsel, or had the opportunity to be represented, during the negotiation and execution of this Agreement, and therefore waive application of any law or rule of construction providing that ambiguities in the contract will be construed against the party drafting such contract.

**32. Attachments.** Attachments to this Agreement include the following:

- Exhibit A – Scope of Services to be provided to ESUCC and Members
- Exhibit B – Payment Terms & Schedule
- Exhibit C – Vendor Software License Agreement

IN WITNESS WHEREOF the parties have executed this Agreement on the last date written below.

**ESUCC**

By: \_\_\_\_\_  
Name: David Ludwig  
Title: Executive Director  
Date: \_\_\_\_\_

**CONTRACTOR**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**EXHIBIT "A"**

**SCOPE OF GOODS OR SERVICES TO BE PROVIDED TO MEMBERS**

**<<VENDOR-INSERT SCOPE OF GOODS>>**

## **EXHIBIT "B"**

### **1. Contractor's Pricing**

Contractor's Pricing Model under this Agreement is:

**<<VENDOR-INSERT PRICING>>**

### **2. Payment Terms/ Payment Schedule**

- A. Members will pay Contractor for all undisputed amounts for the goods and/or services identified in Exhibit A and provided by Contractor under this Agreement within thirty (30) days of receipt of invoice, provided that goods/services have been accepted by the Member as hereinafter provided.
- B. The procedure for billing and payment for services or products and deliverables shall be as specified in this exhibit.

### **3. Acceptance of Services or Products:**

- A. The Contractor shall deliver any goods, perform any services or both in accordance with the schedule set forth in any RFP, RFQ, the time specified in a purchase order issued by ESUCC, ESU, or Member, or this Agreement (whichever is later).
- B. Unless otherwise agreed to by the parties, the Contractor shall provide written notification of completion of any deliveries, or performances of services or both, to the Member ("Delivery Notice").
- C. Members shall have sixty (60) days from the date of receipt of the Delivery Notice to provide the Contractor with written notification of acceptance or rejection due to unsatisfactory performance or nonconforming goods.
- D. If the Member issues a rejection notice, the Contractor shall as quickly as is practicable, correct or replace all deficiencies at its expense. ESUCC shall not unreasonably withhold or delay its acceptance or rejection.

### **4. Title and Risk of Loss:**

- A. Title and risk of loss for goods shall remain with the Contractor until goods are accepted by the Member, ESU, or ESUCC.
- B. Insurance during shipment and until the goods are accepted by ESUCC, ESU, or Member is the responsibility of the Contractor.

**EXHIBIT "C"**

**SOFTWARE LICENSE AGREEMENT**

**<<VENDOR-INSERT SOFTWARE LICENSE AGREEMENT>>**



## 2018-2021 SPECIAL BUY AGREEMENT

THIS AGREEMENT is entered into by and between the Nebraska ESUCC Cooperative Purchasing ("Cooperative"), and BetterLesson, Inc. ("Contractor"). The Cooperative is an organization founded in 1968 with the purpose of providing the Educational Service Unit (ESU) member school districts ("Members") of Nebraska an opportunity to secure the maximum procurement value through cooperative synergies. The Educational Service Unit Coordinating Council (ESUCC) Advisory group serves as the steering committee for new and future cooperative buys statewide under its direction. A chief executive officer coordinates the statewide purchasing agreement between service units and their school districts and other serviceable entities. The Director manages the program with the guidance of the ESUCC, Advisory Board, and the Fiscal Agent. Nebraska ESUCC Cooperative Purchasing serves 17 ESUs that provide a statewide network of educational opportunities to approximately 249 school districts and more than 300,000 students.

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In consideration of mutual covenants, the parties agree as follows:

- 1. Scope of the Contract.** The Contractor shall provide Members the opportunity to purchase the goods and/or services as defined in **Exhibit A**, which is attached hereto and incorporated herein by this reference, at the prices set forth in this Agreement and its Exhibits.
- 2. Payment Terms/Payment Schedule.** Members shall pay for services rendered and/or for accepted goods on the terms and payment schedule as set forth in **Exhibit B** which is attached hereto and incorporated herein by this reference. Prices listed in Exhibit B shall remain in effect during the term of this Agreement unless agreed otherwise by the parties in writing.
- 3. Administrative Fee.** Contractor shall submit to the Cooperative as an administrative fee a sum equal to two percent (2%) of the total gross dollar volume, less freight of all goods and services and excluding annual support and maintenance purchased by the Cooperative, ESUs, and Members. This fee will be submitted to the Cooperative on a quarterly basis beginning three months from the Effective Date of this Agreement for all transactions completed and paid during said quarter.
- 4. Term.** This Agreement is effective on April 5, 2018 ("Effective Date") and shall continue until 12:00 midnight (CST) on June 30, 2021, unless terminated earlier as provided by this Agreement or by law.
- 5. Governing Law; Designation of Forum.** This Agreement is governed by and construed in accordance with the laws of the State of Nebraska. Any action to enforce this Agreement must be brought in the state or federal courts of the State of Nebraska. Mandatory and exclusive venue for any disputes shall be in Sarpy County, Nebraska.

**6. Termination.**

- A. The Cooperative may terminate this Agreement in whole or part if funding from federal, state, or other sources for the Cooperative or its Members is not obtained and continued at levels sufficient to allow for purchase of the good and/or services in the indicated quantities or term. The Cooperative shall notify the Contractor as soon as practicable if funds to meet the Cooperative's or Members' obligations become unavailable. The determination of the Cooperative as to the insufficiency of funds is conclusive.
- B. Each party may terminate this Agreement if the other party breaches or is in default of any material obligation hereunder which default is incapable of cure, or which, being capable of cure, has not been cured within 30 days after receipt of written notice of such default or such additional cure period as the nondefaulting party may authorize in writing.
- C. Each party may terminate this Agreement by written notice if federal or state laws or rules are modified or interpreted in a way that the services are no longer allowable or appropriate for purchase under this contract or are no longer eligible for the funding proposed for payments authorized by this contract.
- D. The Cooperative may terminate this Agreement, in whole or in part, by written notice to the Contractor and may regard the Contractor in default of this Agreement if the Contractor becomes:
  - (1) Insolvent;
  - (2) Makes a general assignment for the benefit of creditors;
  - (3) Files a voluntary petition of bankruptcy;
  - (4) Suffers or permits the appointment of a receiver for its business or assets;
  - (5) Becomes subject to any proceeding under any bankruptcy or insolvency law, whether domestic or foreign; or
  - (6) Has wound up or liquidated, voluntarily or otherwise.
- E. The Cooperative may terminate this Agreement, in whole or in part, immediately, without notice, if the Contractor is debarred or suspended from performing services on any public contracts.
- F. The parties may terminate this Agreement without cause by mutual written consent or by either party with a minimum of 90 days written notice.
- G. Upon the termination for any reason or expiration of this Agreement, the Contractor promptly must return to the Cooperative all papers, materials and other property of the Cooperative then in its possession, including but not limited to all work in progress as is appropriate in its then existing form to the Cooperative.

**7. Indemnification.**

- A. The Contractor hereby waives and agrees to indemnify and save harmless the Cooperative and the ESUs and their officials, agents, employees, and volunteers

(hereinafter collectively referred to as "Indemnities"), against any and all claims of injuries, death, damage to property, liabilities, judgments, costs and expenses which may otherwise accrue against Indemnities in consequence of the granting of this Agreement or which may otherwise result therefrom.

- B. The Contractor shall, at his or her own expense, appear, defend and pay all charges of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith.
- C. If any judgment shall be rendered against the Cooperative or the ESUs in any such action, the Contractor shall, at his or her own expense, satisfy and discharge the same.
- D. Any performance bond or insurance protection required by this contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify and save harmless and defend the Indemnities as herein provided.
- E. The Contractor's obligation to indemnify and save harmless any Indemnities will survive the expiration or termination of this Agreement by either party for any reason.

**8. Insurance.** Contractor shall secure and keep in force during the term of this Agreement the following insurance coverages from insurance companies or government self-insurance pools authorized to do business in Nebraska:

- A. Commercial general liability, including premises or operations, contractual, and products or completed operations coverages (if applicable), with minimum liability limits of \$1,000,000 per person and \$5,000,000 per occurrence; and
- B. If applicable, workers compensation coverage meeting all statutory requirements.

The Contractor shall furnish a certificate of insurance to the undersigned Cooperative representative prior to commencement of this Agreement. Failure to provide insurance as required in this agreement is a material breach of contract entitling the Cooperative to terminate this Agreement immediately.

**9. Public Records.** The Contractor acknowledges that the Cooperative must comply with NEB. REV. STAT. § 84-712 through § 84-713 and release public records as defined law upon request, which may include this Agreement and all records created and maintained in relation to this Agreement.

**10. Publicity.** The Cooperative does not endorse the goods or services of the Contractor. Except for listing the Cooperative as a client during the term of this Agreement, news releases or other publicity concerning this Agreement must not be made by the Contractor without the prior written approval of the Cooperative.

**11. Drug/Alcohol/Tobacco/Weapons Free Workplace.** The Contractor and all subcontractors, if any, shall not manufacture, sell, distribute, dispense, possess or use controlled substances or marijuana, as defined by Nebraska law, during the performance of this Agreement while on Cooperative, ESU, or Member premises or at Cooperative, ESU, or Member related functions. The Contractor and all subcontractors, if any, shall not possess any weapon, as defined by Nebraska law and the federal "Drug-Free

Schools Act,” on Cooperative, ESU, or Member property or at Cooperative, ESU, or Member related functions. The Contractor and all subcontractors, if any, also shall adhere to all Cooperative, ESU, and Member policies and regulations that prohibit the possession, distribution, sale, dispensation, or use of any alcohol or tobacco products while on Cooperative, ESU, or Member premises or at Cooperative, ESU, or Member related functions. Failure to comply with this provision may be considered a material breach. The Cooperative may suspend or terminate the Contractor, subcontractor, or both if it violates these laws, regulations, or policies or this provision.

12. **Nondiscrimination.** The Contractor and all subcontractors, if any, shall not discriminate against any employee or applicant who is to be employed for performance of this Agreement with respect to his or her hire, tenure, terms, conditions, or privileges of employment, because of his race, color, religion, sex, disability, or national origin.
13. **Independent Contractor.** Contractor is an independent contractor under this contract and is not a Cooperative, ESU, or Member employee for any purpose. The Contractor retains sole and absolute discretion in the manner and means of carrying out Contractor’s activities and responsibilities under this Agreement, except to the extent specified in this Agreement.
14. **Employment Eligibility Verification.** The Contractor shall use a federal immigration verification system to determine the work eligibility status of employees hired on or after October 1, 2009 and who are physically performing services within the State of Nebraska. If the Contractor employs or contracts with any subcontractor in connection with this Agreement, the Contractor shall include a provision in the contract requiring the subcontractor to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.
15. **Taxpayer Identification.** Contractor’s federal employer identification number is: 45-2018513.
16. **Sales Tax.** The Cooperative, ESUs, and Members are exempt from sales tax and shall not pay any sales tax under this Agreement. The Cooperative, ESUs and/or Members will provide the Contractor with applicable sales tax exemption certificates upon written request.
17. **Notice.** Each party giving any Notice (“Notice”) under this Agreement must give written Notice by personal delivery, registered or certified Mail (in each case, return receipt requested and postage prepaid), or nationally recognized overnight courier (with all fees prepaid.) Notice shall be sent to the following addressees at the following addresses:

Cooperative: Nebraska ESUCC Cooperative Purchasing  
Attn: Craig Peterson  
1292 East 4<sup>th</sup> Street  
Ainsworth, NE 69210

With copy to:

Steve Williams, Legal Counsel  
KSB School Law, PC, LLO

Cornhusker Plaza  
301 South 13th Street, Suite 210  
Lincoln, NE 68508

Contractor: BetterLesson, Inc.  
86A Sherman St.  
Cambridge, MA 02140

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Notice is effective only if the party giving the Notice has complied with this section.

18. **Warranties and Specifications.** Contractor shall be responsible for providing to Members all manufacturer warranties on all goods and services. Contractor shall provide Members with all attachments normally supplied by the manufacturer and/or supplier. Complete product specification sheets or brochures must be provided to Members, ESUs, or the Cooperative upon request.
19. **Entire Agreement.** The Agreement is the complete and exclusive expression of the parties' agreement on the matters contained in this Agreement. All prior and contemporaneous negotiations and agreements between the parties on the matters contained in this Agreement are expressly merged into and superseded by this Agreement.
20. **Amendments and Modifications.** The parties may amend or modify this Agreement only by a signed, written agreement by both parties that identifies itself as an amendment or modification to this Agreement. No other alternations in the terms of this agreement shall be valid or binding.
21. **Waivers.** The parties may waive any provision in this Agreement only by a writing executed by the party or parties against whom the waiver is sought to be enforced. No failure or delay: (1) In exercising any right or remedy, or (2) In requiring the satisfaction of any condition under this Agreement, and (3) No act, omission, or course of dealing between the parties operates as a waiver or estoppel of any right, remedy or condition. A waiver made in writing on one occasion is effective only in that instance and only for the purpose stated. A waiver once given is not to be construed as a waiver on any future occasion or against any other Person.
22. **Severability.** If any provision of this Agreement is determined to be unenforceable, the remaining provisions of this Agreement remain in full force, if the essential terms and conditions of this Agreement for each party remain enforceable.
23. **Counterparts.** The parties may execute this Agreement in multiple counterparts, each of which constitutes an original, and all of which, collectively, constitute only one agreement. The signatures of all of the parties need not appear on the same counterpart, and delivery of an executed counterpart signature page by facsimile or other electronic means is as effective as executing and delivering this Agreement in the presence of the other parties to this Agreement. This Agreement is effective upon delivery of one executed counterpart from each party to the other parties. In proving this Agreement, a party must produce or account only for the executed counterpart of the party to be charged.

24. **Force Majeure.** Neither party shall be liable for any loss or damage suffered by the other party, directly or indirectly, as a result of the non performing party's failure to perform, or delay in performing, any of its obligations contained in this contract (except any obligations to make payments for services rendered or accepted goods received before the failure to perform or the delay in performance), where, in the opinion of the Cooperative, such failure or delay is caused by circumstances beyond the non performing party's control or which make performance commercially impracticable, including but not limited to fire, flood, storm or other natural disaster, explosion, accident, war, riot, civil disorder, government regulations or restrictions of any kind or any acts of any government, alien enemy, judicial action, power failure, acts of God, or other natural circumstances. This Force Majeure provision excludes economic hardship, changes in market conditions, and insufficiency of funds on the part of Contractor.
25. **Assignment.** This Agreement binds the parties and their respective successors and assignees. The Contractor shall not assign or otherwise dispose of this Agreement or any duty, right, or responsibility contemplated in this Agreement to any other person without the previous written consent of the Cooperative.
26. **Subcontractors.** The Contractor shall not subcontract services or any part of this Agreement without the prior written consent of the Cooperative.
27. **Captions.** The descriptive headings of the Articles, Sections and subsections of this Agreement are for convenience only, do not constitute a part of this Agreement, and do not affect this Agreement's construction or interpretation.
28. **Rights and Remedies Cumulative.** Any enumeration of the Cooperative's rights and remedies set forth in this Agreement is not exhaustive. The Cooperative's exercise of any right or remedy under this Agreement does not preclude the exercise of any other right or remedy. All of the Cooperative's rights and remedies are cumulative and are in addition to any other right or remedy set forth in this Agreement, any other agreement between the parties, or which may now or subsequently exist at law or in equity, by statute or otherwise.
29. **Relationship Among Parties.** This Agreement creates no relationship of joint venture, partnership, limited partnership, agency, or employer- employee between the parties, and the parties acknowledge that no other facts or relations exist that would create any such relationship between them. Neither party has any right or authority to assume or to create any obligation or responsibility on behalf of the other party except as may from time to time be provided by written instrument signed by both parties.
30. **Rules of Construction.** The parties hereto have each been represented by counsel, or had the opportunity to be represented, during the negotiation and execution of this Agreement, and therefore waive application of any law or rule of construction providing that ambiguities in the contract will be construed against the party drafting such contract.
31. **Attachments.** Attachments to this Agreement include the following:
- Exhibit A – Scope of Good or Services to be provided to Cooperative
  - Exhibit B – Payment Terms & Schedule


IN WITNESS WHEREOF the parties have executed this Agreement on the date last date written below.

[THE NEXT PAGE IS THE SIGNATURE PAGE]

**COOPERATIVE**

By: \_\_\_\_\_  
Name: David Ludwig  
Title: Executive Director  
Date: \_\_\_\_\_

**CONTRACTOR**

By:   
Name: Alex Grodd  
Title: CEO  
Date: March 29, 2018

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## EXHIBIT "A"

### SCOPE OF GOODS OR SERVICES TO BE PROVIDED TO MEMBERS

#### BetterLesson Coaching for Teachers

Teachers who are involved in coaching will become more skilled at creating and sustaining learner-centered classrooms. BetterLesson Coaching for Teachers is designed to help your educators adopt a continuous improvement framework through our classroom-embedded, coach-supported program. Participating teachers will gain strong pedagogical knowledge and skills and develop a growth mindset in themselves and the students they support. We personalize each teacher's coaching experience to ensure that we are addressing her/his most pressing teaching challenges while s/he is making observable, measurable progress toward the outcomes you have identified as priorities for our partnership. Each teacher will get access to:

- BetterLesson Virtual Coaching. Bi-weekly sessions with a BetterLesson coach are included to focus on specific, administrator-selected outcomes. Your teachers can also expect continuous on-demand support in addition to their coaching sessions.
- BetterLesson's Professional Learning Lab. The BetterLesson Lab includes: a) premium strategies that are tailored to support your teachers' challenges and your network's outcomes and b) proprietary tools that make it simple for your teachers to make learning visible on an ongoing basis through dashboards and end-of-year digital portfolios.

#### BetterLesson Coaching for Administrators and School-Based Instructional Coaches

Instructional coaches and administrators involved with this program will become more skilled facilitators of continuous adult learning. A BetterLesson Coach will work with your coaches and leaders to ensure they have a strong coaching foundation by building the competencies, resources, and depth of knowledge required to support other educators implement effective learner-centered pedagogies. Bi-weekly meetings with a BetterLesson Coach typically include a mixture of individualized 1:1 and shadowing meetings.

Your participating coaches and administrators will get access to:

- BetterLesson Virtual Coaching. Bi-weekly sessions with a BetterLesson Master Coach are included. During each 1:1 coaching session, your coaches and leaders deepen their ability to build instructional capacity among teachers in their schools. Your coaches and leaders will also get additional support sessions as requested and continuous on-demand support outside of their virtual coaching sessions.
- BetterLesson Virtual Support Sessions. As participating coaches and leaders begin to work directly with their teachers, they can choose to utilize some of their coaching conversations with their BetterLesson Coaches in flexible ways to support them as needs arise, including role-playing coaching conversations, virtually observing coaching conversations they are having with teachers, and looking at data collaboratively.
- BetterLesson's Professional Learning Lab. The BetterLesson Lab includes: a) premium strategies that are tailored to support your leaders' and coaches' challenges and your network outcomes and b) proprietary tools that make it simple for your leaders and coaches to make learning visible on an ongoing basis through dashboards and end-of-year digital portfolios.

#### Design Studio for Teachers, Leaders, and Coaches

The Design Studio is a personalized, in-person one- or two-day experience tailored to your goals and your educators' needs. Our coaches will engage Design Studio participants using active pedagogy

through which we model the strategies that they can use to personalize their students' learning. Participants will use elements of design thinking to:

- articulate each participant's vision for their students' success
- develop a deep understanding of our innovative coaching model and tools
- create an actionable plan that features new strategies, systems, and tools to engage their students more deeply.

### **Strategic Implementation Planning**

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To ensure that we maximize the impact of BetterLesson Coaching in your context, we assign a member of BetterLesson's Partner Success Team to you at the outset of our partnership. This team will work in tailored and collaborative ways with your point people--including school, district and ESU leaders--to get your programs off the ground and create results in your classrooms.

Your Partner Success Manager will work with you before coaching begins to ensure:

- Alignment on Vision and Outcomes: We will align our programs to the goals, instructional outcomes, and needs of your students and educators.
- A Successful Partnership Launch: We will engage with you in a strategic planning conversation to understand your context and help you plan a strong roll-out process.
- Registration: We will work with you to ensure that your educators complete our registration process and have the information they need to build understanding of and investment in our work with them.

### **Alignment, Support, and Reporting on Impact**

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As our partnership progresses, our Partner Success Team will be in regular communication with your BetterLesson Coaching point people and stakeholders in order to review progress, get feedback, and ensure ongoing alignment.

- Partnership Meetings: We will establish a regular meeting cadence to:
  - share qualitative and quantitative data regarding participant progress
  - ensure continued alignment toward identified outcomes
  - troubleshoot and resolve challenges.

Customized Dashboard: BetterLesson creates customized dashboards to give you insight into the work of your educators who are working with our coaches. Dashboards include both a high-level view of progress your educators are making toward identified/prioritized outcomes as well as a teacher-by-teacher snapshot of the strategies, artifacts, and reflections your educators are sharing with our coaches to track their progress.

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**EXHIBIT "B"**

**1. Contractor's Pricing**

Contractor's Pricing Model under this Agreement is:

<u>BetterLesson Product</u>	<u>SY 18-19 Program Rate</u>
<u>BetterLesson Coaching for Teachers</u>	<u>\$2,000/teacher*</u>
<u>BetterLesson Coach the Coach (for administrators &amp; instructional coaches)</u>	<u>\$3,000**/educator</u>
<u>Partner Success: Planning, Data, &amp; Impact Consultations</u>	<u>No Charge</u>
<u>Design Studio</u>	<u>Variable cost,</u> <u>depending on length and number of participants</u>  <u>\$4,000/day</u> <u>up to 15 participants</u>  <u>Travel for BetterLesson coaches included.</u>

**\* 20% discount on national rate of \$2,500/teacher**

**\*\* 25% discount on national rate of \$4,000/educator**

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**2. Payment Terms/ Payment Schedule**

- A. Members will pay Contractor for all undisputed amounts for the goods and/or services identified in Exhibit A and provided by Contractor under this Agreement within sixty (60) days of receipt of invoice, provided that goods/services have been accepted by the Member as hereinafter provided.
- B. The procedure for billing and payment for services or products and deliverables shall be as specified in this exhibit.

**3. Acceptance of Services or Products:**

- A. The Contractor shall deliver any goods, perform any services or both in accordance with the schedule set forth in any RFP, the time specified in a purchase order issued by the Cooperative, ESU, or Member, or this Agreement (whichever is later).
- B. Unless otherwise agreed to by the parties, the Contractor shall provide written notification of completion of any deliveries, or performances of services or both, to the Member ("Delivery Notice").
- C. Members shall have sixty (60) days from the date of receipt of the Delivery Notice to provide the Contractor with written notification of acceptance or rejection due to unsatisfactory performance or nonconforming goods.
- D. If the Member issues a rejection notice, the Contractor shall as quickly as is practicable, correct or replace all deficiencies at its expense. The Cooperative shall not unreasonably withhold or delay its acceptance or rejection.

4. **Title and Risk of Loss:**

- A. Title and risk of loss for goods shall remain with the Contractor until goods are accepted by the Member, ESU, or Cooperative.
- B. Insurance during shipment and until the goods are accepted by the Cooperative, ESU, or Member is the responsibility of the Contractor.

