

Category	Term	Definition
Environmental	CWA:	American Clean Water Act which requires that water run-off from rain, snow melt and irrigation be managed to reduce toxic substances introduced into the water and insure public safety
Environmental	Environmental Impact:	Any change to the environment, whether adverse or beneficial, wholly or partially, resulting from an organization's activities or products.
Environmental	Landfill:	Waste disposal site for the deposit of waste onto or into land under controlled or regulated conditions. See Watershed Geosynthetics.
Environmental	Material Recovery:	Material processing operations including mechanical recycling, feedstock (chemical) recycling, and organic recycling, but excluding energy recovery.
Environmental	Post Consumer Recycled Content:	A product that contains some percentage of material reclaimed from consumer waste.
Environmental	Post Industrial Recycled Content:	A product that contains some percentage of manufacturing waste material that has been reclaimed from a process generating from similar or different types of processes and products. Also called pre-consumer recycle content.
Environmental	Recycled Content:	Percentage by weight of recyclate in a material or product.
Environmental	Regrind:	Recovered plastics material reclaimed by shredding and granulating recovered material.
Installation	Base:	This is the layer of compacted aggregate below the turf. For most synthetic turf installations, about three inches is required. This fills the area back up to where the real turf was removed, and helps shape and smooth the surface for the synthetic turf to lay on.
Installation	Brooming/Grooming or Power Brooming:	Brushing-up the blades of turf or to work infill materials into the surface (brooming in the infill - brooming up the turf fibers). Can be accomplished manually or with a power broom.
Installation	Buckling or Wrinkling:	A condition of wrinkling, bubbling, or ridging of turf following or during installation. Changes in humidity, temperature or base materials can sometimes affect conditions. Buckling can also be a manufacturing defect such as delamination.
Installation	Butt-Seam/Cross Seam:	Widely referred to as a head seam. This seam is set across the width of the materials. Lines of stitches from both pieces are set together to continue the lines of stitches between pieces. The stitch lines are off-set, this seam may show.
Installation	Carpet Knife:	Utility knife set up to allow for quick blade changes and may have a more comfortable grip and angle to the handle.

Installation	Chalk and Chalk Line:	Chalk is used either in solid form or in powder form for marking. Powder forms of chalk, in various colors, are added to a chalk line to be used to snap a straight line across a surface.
Installation	Chalk Line:	A long string line wound around the inside where the powder can coat it, the chalked line is used to mark a straight line.
Installation	China Marker or Crayon:	A grease pencil that can be used to mark the backing of the synthetic turf materials and fabrics used in construction.
Installation	Clay Soils:	An earthy soil that retains moisture and when moist can almost be the consistency of putty. When dry, clay soils are notably dusty, hard and unworkable. Devoid of any organic materials, clay soils generally percolate slowly, if at all. When saturated surfaces can rut and compact under heavy weight loads.
Installation	Compaction:	The act of compressing the surface materials to reduce air content, and increase surface stability. Compaction should happen at every two-to-four inches of lift and at every change of material used. It is recommended never to attempt to compact six or more inches of lift; you will find that compaction is extremely ineffective and poor results make the area settle in time. See Proctor Density.
Installation	Crown:	The highest elevation of an area used to facilitate excess water run-off. Native soil fields are commonly constructed with a center elevation (crown) up to 18" inches higher than the sidelines. Sand-based and synthetic areas utilize a very minimal crown and sometimes are completely flat.
Installation	Crush Recovery:	Crush recovery describes the ability of the synthetic turf surfaces to rebound to an upright position after being walked on or having weight from furniture or other elements on it. To encourage proper recovery, all synthetic turf surfaces made for lawn and landscape will benefit from some amount of infill materials which provide horizontal and vertical stability as well as UV protection for blades and backings.
Installation	Crushing:	Crushing is irreparable loss of pile height caused by traffic or weight.
Installation	Culvert:	An enclosed pipe or pipeline used to carry run-off water; generally under roads and buildings.
Installation	Dimensional Stability:	Refers to the ability of the finished turf surfaces to retain its original size and shape.

Installation	Direct or Double Glue Down:	The installation method whereby the turf is adhered to the floor using adhesives. A double glue down refers to the installation of a cushion direct to the flooring and the turf to the cushion.
Installation	Drainage System:	An efficient and effective underground drainage system is an integral component of a synthetic turf system, and is designed to carry away the water that percolates through the turf. The system chosen will depend on the use of the area, climate, amount of rainfall and other factors.
Installation	Drop Spreader:	A drop spreader is normally used for the application of fertilizers, seeds and other top dressed materials where the calibration of the amount of materials deposited per square foot or acre needs to be measured evenly across the surfaces. Drop spreaders can be designed as walk-behind or tow-behind units and the hoppers can hold from 50 to hundreds of pounds of materials. At the base of the inside of the hopper, a rotating cylinder helps move materials through adjustable openings in the hopper floor, allowing a measured amount of materials to drop out of the bottom of the hopper.
Installation	Dry Well:	A dry well describes any type of water collector created under ground to catch water and hold it during native soil percolation.
Installation	Feathering:	The action of feathering is to achieve a smooth transition between different types of materials over the site.
Installation	Float:	Floating the material creates a smooth surface.
Installation	French Drain:	A true French drain would only incorporate the use of a swale or culvert and drain rock to provide a channel in which water could shed away from building foundations. Today, most construction techniques that call out a French drain system incorporate the use of three-to-four inch corrugated, flexible pipe, fittings and the construction of a drain channel, with fabric, drain rock, pipe, pipe sock and call it a French drain. Either method has its merits and uses and we encourage you to engineer your site plans to accommodate the worst weather conditions possible in your site's area.
Installation	Glue Down:	Installation method for full spread adhesive applications.
Installation	Grade:	This is the level and slope of the base below the synthetic turf lawn.

Installation	Hard Edge:	Hard edges are perimeter edges of a synthetic turf installation project that touch elements that will not or cannot move; walkways, driveways, walls, patios, fences, buildings, foundations, etc. Synthetic turf materials must be hand-trimmed to these edges. Pressure treated wood in the aggregate base below the synthetic turf is used to prevent dogs and pets from pulling up the edges of the turf.
Installation	Inline Seam:	Seams running the length of the turf (same direction as the lines of stitches). Sometimes called side or length seams.
Installation	Irrigation:	Sprinklers and irrigation systems are used for cooling and control of static electricity and dust in synthetic turf systems.
Installation	Landscape Border:	Edge anchoring landscape borders are designed to be installed at the perimeter of the area to attach to the synthetic turf, anchor it, and transition to whatever abuts the area. The anchor may consist of a concrete curb, a treated wood nailer, a composite material. These may vary by design and region, but should always provide a secure anchor.
Installation	Lines and Markings:	Lines and markings, such as sport specific game lines, logos, and numbers, should be applied to the synthetic turf surface in one of three methods: with colored fiber that is either tufted or knitted into the synthetic turf panels during the manufacturing process, installed as inlays, or with temporary or permanent paint that is approved for use on synthetic turf surfaces. Tufted-in or inlaid lines and markings are a permanent part of the surface. Painted lines and markings installed with either permanent or temporary paint require maintenance. Even permanently painted lines require additional paint on a periodic basis. See materials page.
Installation	Miter Joint:	Where two pieces of turf are seamed at a 45 degree angle to each other
Installation	Mylar:	This is a film used to spread glue on in order to seam pieces of synthetic turf together.
Installation	Native Soil:	We refer to the natural conditions of the soils of the installation site. Native soils can be clay, loam, sand, peat, etc. Native soil conditions and, local rainfall, snow and watershed/drainage aspects of the installation must all be weighed against project use goals when engineering a synthetic turf design.

Installation	Percolation:	The ability of a surface to allow the flow of fluids through it. Percolation is generally measured in inches-per-hour, ounces per second over the amount of surface area, defined. (ie: engineered to optimize drainage by gravity, 30 inches of water can percolate through synthetic turf surfaces per hour).
Installation	Perimeter:	The outer edge of the installation site of the synthetic turf area. Each area of synthetic turf has its own perimeter.
Installation	Powerbroom or Brush:	A tool used during the construction and grooming of synthetic turf installations, a powerbroom or brush was developed for use as concrete and asphalt sweepers and adopted by the synthetic turf industry as a tool to help defibrillate (or bloom) synthetic turf surface materials and help to distribute infill materials across the surfaces. A powerbroom can also be helpful to groom surfaces. See tools page.
Installation	Relief Cuts:	Cuts made into synthetic turf materials that will help alleviate any excess material in the turf while positioning it and trimming it against hardedges that are curved or odd shaped. Relief cuts can simply be straight cuts from the hard edge outward to the end of turf, they can be shaped in the form of an H or a T to help wrap surface materials around obstacles such as trees can be made into the turf that is located directly on top of a landscape element such as a large rock, to allow the turf materials to be slipped over the obstacle and trimmed off at a later time. Relief cuts can streamline cutting surface materials to fit and in helping to fit materials around obstacles in the landscape.
Installation	Rippling:	Heat and humidity can cause ripples or waves in some turf.
Installation	Roll Crush Marks:	Marks that appear widthwise in the turf pile due to wrinkles in the fabrics, created during rolling or due to the flattening of the turf roll during storage.
Installation	Root-Zone:	Layer of soil in which the roots are found. Also a growing medium. In synthetic turf, it refers to a thatch layer.
Installation	Roto Tiller:	This is a machine which churns up the ground and is often used in planting and farming. This is not to be used for base preparation of synthetic turf.
Installation	Seam/Inlay Integrity:	The strength, trueness and durability of the area between two edges of synthetic material, which can be hand-sewn or adhered with adhesives. Numbers, logos, and line markings are typically done this way. This is a critical area that needs to be addressed during installation.
Installation	Seam:	The bonding or fastening of two pieces of synthetic turf.

Installation	Selvage:	Additional backing materials at the outer edges on the width of the turf materials. Most selvage is used when seams are sewn and cut off when glued.
Installation	Shedding:	New turf appears to shed blades after installation. Many of these blades were cut away during normal installation and were hidden during job site cleaning. They work their way to the surfaces during use. Regular blowing and grooming will resolve this problem, quickly.
Installation	Shrink:	Synthetic turf surface materials, like most woven products can shrink or shift under certain conditions. Where temperature variances can change from extreme cold to extreme heat, synthetic turf surfaces can expand and contract. A minor amount of shrink can occur on surfaces as they age, though, shifting of turf surfaces is more often noticed and can be mis-identified as shrink.
Installation	Side Seams:	Seams running the length of the turf (same direction as the lines of blade stitches). Sometimes called inline or length seams.
Installation	Silt and Silting:	The word silt can describe any material small enough to begin to coat a surface in such a way as to choke out light, liquid and air. Under landscape conditions, silting generally describes the clogging of a surface material that increases puddling, decreasing percolation and may contribute to contamination, weed and moss growth, insects and system failure. Remove all unwanted organic materials and refresh and revitalize your synthetic turf surfaces by exercising and grooming with deep-pile carpet rakes or powerbrushes. This will help to keep fine materials from filling voids in between infill materials and will help to redistribute and even out infill materials on the surface.
Installation	Site Work:	Earthwork that is necessary before field construction can take place, i.e. the removal of buildings, trees, rocks, soil; installing utilities, improving or installing drainage.
Installation	Snags:	Snags can occur when an object tangles in turf. Usually, you can simply cut the snag with sharp scissors.
Installation	Sod Cutter:	This is a machine which cuts real turf or sod in even depths and widths so it can be removed easily to prepare for the base of the synthetic turf system.
Installation	Soft Edges:	Any landscape or lawn edge that does not connect or touch upon a hard, unmoving surface material such as a walkway, path, driveway, wall, fence line, or other surfaces such as field rocks.

Installation	Soil Profile:	A vertical section of soil showing natural or incorporated layers of different colors, textures or materials.
Installation	Sprinkler Plug:	This is the fitting that screws into, not on, your sprinkler head and serves the same purpose which is water conservation and to prepare for the synthetic turf lawn base.
Installation	Sprouting:	Sprouting occurs when higher turf fibers appear on turf surfaces. Simply trim the sprouts with sharp scissors.
Installation	Square Foot:	The total square foot measure of an area is determined by measuring the length and depth of the area and multiplying the two factors together; the result is the total square feet (SF) of an area. An area of 10 feet wide by 120 feet long is 1200 square feet of total area.
Installation	Square Yard:	The total square yardage of an area is determined by measuring the length and width of an area; multiplying the factors together and dividing by nine. An area of 10 feet wide by 120 feet long results in a total area of 1200 SF; divided by nine and the area covers 133.33 square yards (SY).
Installation	Stability:	The makeup of the sub-base and infill components. A project's sub-base and base construction should maximize horizontal stability to carry weight load. Synthetic turf primary and secondary backing materials provide the turf system's surface materials to provide additional horizontal stability and the two, engineered together provide the required stability needed to suit the project objectives; To achieve vertical stability, synthetic turf systems are assisted by the use of infill materials to help stand blades upright and provide resiliency and cushion underfoot.
Installation	Sub-base:	Materials that lie under the surfaces of imported job materials. Native soils, concrete, asphalt and other surfaces can all be referred to as the "sub-base"; subterranean base or foundation.
Installation	Subgrade:	The soil base upon which an area is constructed.
Installation	Swale:	A swale is typically used as an open channel to direct water run-off from rain and watershed.
Installation	Tamp and Tamper:	A tamper is a hand tool used to compact small areas of soil or base materials.
Installation	Topdress:	A process utilized on synthetic turf in which an infill material is used for final finish.
Installation	Trim and Trim Elements:	Trim is the material or method used to edge the synthetic turf project where trim elements are the actual materials selected for the edging treatment.

Installation	Trowel:	This is a flat and sharp edged tool used to ensure that the borders or perimeter of your synthetic turf base is consistent and level. Also used to spread turf adhesive.
Installation	Underground drainage:	System installed beneath a natural or synthetic turf system to permit the uniform and speedy exit of moisture from the surface. It may consist of natural materials, (sand/soil), and/or engineered products (pipes, drainage mats or synthetic stone substitutes).
Installation	Underlay:	Materials installed directly under the turf; generally thick pads for additional cushion, fall zone safety or other enhancement
Installation	Vibrating Plate Compactor:	This is the machine used to compact the rock base below the synthetic turf. A 95% compaction rate of aggregate is desirable.
Installation	Waste:	The amount of surface materials remaining after the completion of the installation. Waste materials are generally recycled or reused where possible; however, a certain amount of waste is to be expected.
Maintenance Maintenance	Anti-Microbial: Cleaning:	Chemicals added to reduce the growth of microbes. Additives address specific challenges such as bacteria, fungi, mold and mildew. The process of removing soil and contaminants from turf.
Maintenance	Matting:	Matting is bent over and entangled turf fibers caused by traffic or dirt. Matting can be minimalized by grooming the turf with either power brushes or manually raking it back to height .
Maintenance	Pile Crush:	Loss of pile thickness by compression (matting) and blending of tufts caused by high traffic or heavy weight. Grooming turf surfaces will often lift the pile back to original height. All turf will crush in traffic areas to some degree during its life expectancy.
Maintenance	Pile Fiber Loss:	The reduction of the diameter, denier, total fiber and/or density of the synthetic turf fibers due to abrasive actions, such as excessive traffic, improper grooming or other action that may affect the fibers over a period of time.
Maintenance Maintenance	Pile Reversal/Shading: Seam Repair:	Pile reversal or shading is a characteristic of synthetic turf. Bends in the turf fiber create an impression of light and dark areas. Regular grooming and proper infill can minimize shading. Rejoining two pieces of turf.

Maintenance	Soiling:	Soiling occurs when contaminants build up on turf fibers. Soiling may be caused by lack of proper site planning and drainage. Regular grooming, blowing and cleaning will minimize this problem.
Material	Adhesives (Outdoor):	An adhesive used in outdoor application to bond synthetic turf to other materials. See recommended Shaw turf adhesives on installation instructions.
Material	Aggregate/Base Materials:	Aggregate/Base is a material of several different sizes and/or types of crushed quarry rock and dust. Larger, courser gravels can range from 1/4 inch to over 1.5 inches in average size (radius) and the materials will always be mixed with quarry fines (also known as crusher dust). When used as imported base materials, compaction should occur at every two-to-four inch lift or as base materials change.
Material	Coated Sand Infill:	Acrylic coated sand that can be colored or natural. Sand may be coated for color or antimicrobial benefits.
Material Material	Crush and Run/Road Base: Decomposed Granite(D.G):	<p>Terms used for aggregate materials made up of 1/2-to-two inch gravel and quarry fines and is compactable to 95% proctor or more. Used heavily in the construction of base structure prior to the completion of concrete, asphalt, pavers and other masonry projects, road base is a flexible and stable base material used in no less than a three inch lift. Road base, due to its nature of small chunky rocks and fines, remains porous and can percolate adequately under most conditions. Excellent choice for extreme lifts of six inches or more on any surface. Do not compact higher than 95% proctor or you will lose any percolation.</p> <p>Decomposed granite is a type of aggregate rock used for basic synthetic turf projects.</p>
Material	Drain Rock:	Any 1/2 to 1.5 inch clean rock or gravel used for layers of compactable drainage base material. Drain rock is typically the first materials to be used over native soils, drainage and fabrics. A secondary layer of porous fabrics should be used over the drain rock, prior to additional compactable base materials being imported and compacted on top.
Material	EPDM Infill:	Can be used as a rubber infill substitute. 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.

Material	Fines:	<p>Small particles of finer crushed gravel and rocks. The particles mixed with larger gravel help to create a compactable base material. Fines are usually described as any quarried material that is smaller than 1/4 inch down to the texture of fine silt or talcum powder. Also used for smoothing and leveling imperfections.</p>
Material	Infill:	<p>Granules are worked into the fibers of the synthetic turf. Granules keep the blades or fibers standing up, provide ballast and protect the turf backing from ultraviolet rays.</p>
Material	Landscape Nails:	<p>Fasteners used to secure the synthetic turf down to the base and perimeter edging. These are hot dipped galvanized or plastic so that they don't rust below your synthetic turf lawn. Spikes are three to ten inches long, so they penetrate the synthetic turf, the aggregate base, and the sub-soil to keep the turf secure for years to come.</p>
Material	Organic Infill:	<p>Natural materials such as natural cork and/or ground fibers from the husk of the coconut or walnut shells. These products can be utilized in professional sports applications as well as for landscaping. At the end of its life cycle it can be recycled directly into the environment.</p>
Material	Organic Material:	<p>Any material that can decompose over time; bark, amended soils, chips, shells, and other mulch materials; weeds, root systems, natural fibers such as jute, unwanted turfes and plants, etc.</p>
Material	Pea Gravel:	<p>Disclaimer: Pea gravel should not be used as a base material but it may be used for drainage. Clean, jelly-bean shaped pebbles, that can range from 1/4 inch to 1/2 inch in size. Pea gravel is used for drainage application.</p>
Material	Rubber (Crumb/Granulated) and Coated Rubber Infill :	<p>Granules of new or recycled rubber materials used for infill or top dressing on synthetic turf materials. Granules are specified as new (EPDM) or recycled (SBR) rubber and are sized by the smallest and largest average radius of the granules contained in the packaging. Size of granules used will depend upon the application; putting green surfaces require smaller grain size than lawn areas.</p>

Pure silica sand is one of the original infilling materials utilized in synthetic turf. This product is a natural infill that is chemically stable and fracture resistant. As a natural product there are no heavy metals, and the dust/turbidity rating is less than 100. It can be used in conjunction with many other infills on the market to provide a safe and more realistic playing surface. The round shape plays an integral part in the synthetic turf system. It is important that silica sand have a high purity (greater than 90%) to resist crushing and absorption of bacteria and other field contaminants. Silica sand can either be coated with different materials as a standalone product or can be used to firm up in combination with traditional crumb rubber infill systems. Coated Silica Sand. This class of infill consists of coated, high-purity silica sand with either a soft or rigid coating specifically engineered for synthetic turf. These coatings are either elastomeric or acrylic in nature (non-toxic) and form a bond with the sand grain sealing it from bacteria to provide superior performance and durability over the life of a field. Coated sand is available in various sizes to meet the application's needs. Depending on the amount and type of infill, coated sands can either be used with or without a pad and are available in various colors. All of the coatings are non-toxic and are bonded to the quartz grain for superior performance and durability over the life of your field. These materials are typically used as a homogenous infill which provides both ballast and shock absorbing qualities to a synthetic turf application.

Material

Sand (Silica) Infill:

Sand is graded by roundness and angularity. Very round, round, sub-round, sub-angular, angular, and very angular. Sub-round to very round are the preferred shapes of silica sand for landscape infill. Sharper edges, peaks, cracks and fissures in the surfaces of sub-angular materials make them prone to microbial contamination and degradation, especially under heavy traffic. Sub-angular material degradation can lead to silting of surfaces; ie: used as infill, overtime, degradation of granules can decrease percolation, increase hardness of surfaces, decrease resiliency and recovery. Sub-angular grains are shaped in such a way as to make them more abrasive as infill materials which may lead to synthetic turf blade degradation, at increased rates.

Material

Sand Shapes

A percentage of sand and rubber particles that are combined to create an "infill material," which is used on the new generation of synthetic surfaces. This mix fills in the areas between the fibers to provide structural support of the fibers, padding for the players, and ballast to weigh it down.

Material

Sand/Rubber Mix (Ratio):

Material	Seaming Tape:	Seaming tape is commonly used for seams and/or inlaid lines and markings. The tape is comprised of a fabric that should be installed below the backing material on both sides of a seam or inlay. The fabric used for seaming tape should provide dimensional strength and enough surface texture to bond well with the adhesive.
Material	TPE Infill:	Thermo plastic elastomer (TPE) infill is non-toxic and available in a variety of colors that resist fading, and 100% recyclable.
Material	Underlayment Fabric:	Fabrics used under layers of base materials in the project. These form a barrier to provide separation between the base and soil.
Material	Weed Barrier Mesh:	This is a cloth that keeps weeds from growing up through the synthetic turf. It usually comes in four-foot-wide sections and goes on top of the rock base and under the synthetic turf.
Product	Accessibility:	Ease of access into and from an area, specifically dealing with accessibility as defined by the American with Disabilities Act (ADA) in that a public area will be safely accessible to all persons. American Disability Act sets standards required to be met in public buildings and project sites providing safe, accessible access to all persons. For further details go to www.ada.gov
Product	Acrylic:	A quick drying thermoplastic used for coatings and adhesives.
Product	Appearance Retention:	Appearance retention, or the ability to remain visually attractive during its expected life, is directly affected by such factors as turf construction, performance of pile yarns, and the appropriateness of the turf selected for the end-use, and the proper installation and grooming of infill.
Product	Astroturf:	This is a brand name of only one synthetic turf manufacturer. This term seems to be used interchangeably for all brands of synthetic turf.
Product	Average Pile Yarn Weight:	Mass per unit area of the pile yarn including buried portions of the pile yarn, In the US - this is usually expressed as ounces per square yard.
Product	Backings:	The materials that make up the underside of finished turf. The primary backing anchors the pile yarns, while the secondary backing provides extra dimensional stability and locks in the stitches. The adhesive backing refers to the urethane, latex, or hot-melt coating.
Product	Classic Bac:	A secondary woven polypropylene backing applied to the primary backing to increase tuft bind.

Product Product	Combination Yarn/Fibers: Continuous Filament:	<p>A term that refers to yarns or fibers that are combined; one combined yarn is composed of two or more yarn fibers having the same or different fiber types or colors.</p> <p>A single, continuous, strand of synthetic fiber extruded in yarn form.</p>
Product	Cross Section:	<p>The shape or profile of an individual filament or fiber when cut at right angles to fiber axis. Monofilament fibers may take many shapes and thicknesses. Slit tape fibers always have a rectangular cross section.</p>
Product Product	Cut and Loop Pile: Cut Pile:	<p>A finished turf surface in which the face is composed of a combination of cut ends of pile yarns and loops of other fibers</p> <p>A finished turf surface in which the face is composed of cut ends of pile yarn.</p>
Product	Denier:	<p>A unit of linear density that expresses the weight/unit length of a synthetic fiber. The weight in grams of 9000 meters of yarn. Denier is a direct yarn numbering system; the higher the DENIER, the LARGER or HEAVIER the yarn. Fibers used for lawn and landscape turf styles are available from 4000 to 11,000 denier while putting green fibers are available in 5400 - 7600 denier.</p>
Product	Extrusion:	<p>Melting the mixture of selected polymers, pigments, process stabilizers and additives used in making yarn fibers.</p>
Product	Fabric:	<p>Materials used under and through-out the construction of a synthetic turf project. Woven and non-woven, commercial grade materials provide additional horizontal and vertical stability to every install. See underlayment fabric.</p>
Product	Face Weight:	<p>A unit of measure (ounces/square yard) used to quantify the amount of yarn that is used to make turf. Face Weight is usually used to measure of the amount of 'lawn blades / thatch' that is in your turf. Also commonly referred to as yarn weight and/or pile weight.</p>
Product	Fiber Thickness:	<p>Fiber thickness is the length of the shortest of the three dimensions of a fiber. The durability of a turf fiber is related to thickness of the cross section of the fiber.</p>
Product	Fiber Width:	<p>The width of the fiber is the second longest of the three dimensions of a fiber. The fiber width affects the coverage provided by the fiber. For most slit tape fibers, the thickness is held constant and denier is increased by increasing the fiber width.</p>

Product	Fiber:	Typically, the fiber used in synthetic turf is textured and/or non-textured polypropylene, polyethylene, nylon, or other suitable performing hybrid or copolymer in tape form or mono-filament. Minimum fiber sizes are 50 microns for polypropylene or polyester, 100 microns for tape form (slit film) polyethylene, and 140-300 form mono-filament polyethylene (shape dependent). Fibers should be compliant with ASTM guideline for total lead content.
Product	Fibrillated Tape:	A type of yarn styling that produces tapes from an extruded sheet. The tapes are fibrillated lengthwise to produce a fibrillation pattern. The tape is twisted to prepare it for tufting. These fibrillated tape fibers will split during the infilling steps, causing the turf surfaces to "bloom" or de-fibrillate, creating a natural looking surface.
Product	Fire Retardant:	Additive to enhance the fire retardancy of the synthetic turf fibers; generally, most fiber materials will not combust, however they will melt at temperatures exceeding 500 degrees (F). Each synthetic turf material will be different and if needed for purposes of liability or accountability, manufactures are required to have this information on file - ask for the MSDS (Materials Safety Data Sheet) for your product
Product	First Generation:	A tightly curled, nylon fiber, woven or knitted into a pile fabric. The first installations were engineered to be glued down with a pad on concrete and asphalt. The First Generation of turf was inspired by the Ford Foundation's request to improve inner city play areas.
Product	Gauge:	The distance between two needle points expressed in fractions of an inch in US. Turf is stitched into the backing at pre-set widths between stitch rows—this is the gauge of the stitches. Generally, turf is manufactured at one of the following gauge: 1/4,5/16", 3/8", 1/2" to 3/4" stitch gauge.
Product	Geo-textile:	Manufactured woven and non-woven materials made into a variety of constructions and used in civil engineering and construction applications.
Product	Knit de Knit (KdK):	Knit de knit is a treatment that is applied to straight turf fibers after their initial creation. The yarn is knitted into socks; heat set, unravelled and wound onto bobbins. This process gives the finished yarn a curly appearance and helps to relieve the effect of pile direction in the turf surfaces; making the surface non-directional. Many nylon, non-fill putting green and newer lawn turf products use KdK yarn.

Product	Knitted:	Knitted turf is formed by interlacing yarn in a series of connected loops - generally synthetic turf is tufted, not knitted.
Product	Latex:	Latex is a natural product used as a secondary backing material to lock stitches in place and provide additional dimensional stability.
Product	Luster:	The brightness, sheen or shine of fibers and yarns. Synthetic fibers are produced in bright or dull version. Luster can be controlled with additives or process conditions.
Product	Monofilament:	Yarn fiber made in one single strand. Yarn is extruded out of a shower head- type extruder versus a film tape for slit-film yarn fibers.
Product	Needle Punched:	Needle punched non-woven is stitched into backing material.
Product	Nylon:	A polyamide fiber exhibiting excellent strength, flexibility, toughness, elasticity, and abrasion resistance. Nylon is known to have greater moisture regain than polypropylene and polyethylene fibers.
Product	Pad (Shock Pad):	Attenuation pads offer an added level of protection and consistent playability to the playing surface and are designed to contribute to a safe g-max level throughout a synthetic turf field's life. Roll out or panel systems are relatively economical and offer ease of installation. Pads can be permeable or impermeable. Some can replace all or portions of the stone base and provide both shock attenuation and drainage, while others are used in combination with a traditional stone and drainage base. Pads can be placed directly over asphalt or cement stabilized surfaces. Provided care is taken in the turf install/removal process, some last more than one turf life cycle. Some pads are made from recycled materials, while others are made from virgin materials and may be recyclable.
Product	Perforations:	For synthetic turf systems designed to be permeable to water, a system with a fully coated secondary backing will typically have holes punched into the backing at regular intervals to provide adequate vertical drainage throughout the system.
Product	Pigment:	Highly colored, insoluble, powdered substance used to impart color to other materials. White pigments, e.g., titanium dioxide, are dispersed in fiber-forming polymers to produce delustered (semi-dull and dull) fibers.
Product	Pile Density:	Amount of pile in a given area of turf which reflects the closeness of the pile yarns - regardless of the yarn's denier (individual blade size), texture (individual yarn shape).

Product	Pile Height:	The height of pile measured from the surface of the back to the top of the pile, not including the thickness of the back.
Product	Pile Weight:	The weight in ounces of the fiber in a square yard of turf.
Product	Pile:	The visible surface of turf, consisting of yarn tufts. Sometimes called the face or nap.
Product	Ply:	A single component in applied yarn. The number of "plies" tells how many single ends have been ply-twisted together to form a plied yarn (i.e.: 6 or 8 ply yarn).
Product	Polyester:	A fiber-forming, thermoplastic synthetic polymer. Nearly all polyester turf fiber is staple, and the yarns are spun yarns. Polyester for turf is made from terephthalic acid and ethylene glycol and is known chemically as polyethylene terephthalate.
Product	Polyethylene:	These fibers have a low specific gravity, extremely low moisture regain, the same tensile strength wet and dry, and are resistant to attack by mildew and insects. Known as the softer, less abrasive fibers.
Product	Polymers:	Polymers are large chemical molecules from which synthetic fibers, synthetic infill and backing systems are made. Polymers are complex, chain-like macromolecules which are made by uniting simpler molecules called monomers. Synthetic polymers used for synthetic turf fiber include Type 6 nylon (polyamides), polyethylene and polypropylene.
Product	Polymid (PA):	Nylon is the most well-known polymid used in manufacturing turf fibers today.
Product	Polyolefin:	Any long chain, synthetic polymer composed of at least 85 percent by weight of ethylene, propylene or other olefin units. Polypropylene and polyethylene are used in turf as both backing and pile fiber. See Polyethylene (PE) and Polypropylene (PP). Polypropylene fiber are used in turf primary backing and as face pile fibers.
Product	Polypropylene (PP):	Polypropylene fibers that are polyolefins that require solution dyeing (pigmented) and UV stabilization.
Product	Polyurethane:	Material used as a secondary backing on the back side of synthetic turf materials. Applied as a viscous coating that cures into a continuous coating. the polyurethane coating helps lock in the fiber stitches and increase the horizontal stability of the synthetic turf materials. The secondary backing process is one of the last in the line of steps to producing finished synthetic turf goods.

Product	Primary Backing:	A component of tufted turf consisting of woven and/or nonwoven fabric into which pile yarn tufts are inserted by the tufting needles. It is the carrier fabric for the pile yarn. Most primary backing is either woven or nonwoven polypropylene.
Product	Resilience:	The capability of the turf to bounce back to its original appearance after being used. How well a turf can handle high traffic or compressive force is determined by several factors; resilience of fibers and yarn materials, denier (dtex) and infill system of the turf system.
Product	Second Generation Turf:	Polypropylene yarns were introduced along with a new "shag turf" like metaphor in the early 1990s. The new yarns were less abrasive than the first generation turf products. The secondary backing materials are applied through a coating process. A tufted fabric typically receives a suitable coating of polyurethane, latex, hot melt, or other coatings or fabrics in various weight and thickness configurations, depending on individual system design. The secondary backing provides an additional level of tuft bind and structural integrity to the synthetic turf. Backing material laminated to underside of turf for additional dimensional stability and body. Usually latex foam, jute, polypropylene, vinyl, urethane, or E.V.A.
Product	Secondary Backing:	Slit Film See fibrillated tape
Product	Slit Film (See fibrillated tape):	Slit Film See fibrillated tape
Product	Stitch Count:	The number of stitches in a predetermined length along the tufting row.
Product	Stitch Length:	Total length of yarn from which a tuft is made. It is numerically equal to twice the pile height plus the associated back stitch behind the primary backing.
Product	Stitch:	One tuft along a tufting row in tufted fabrics.
Product	Style:	A set of specifications that describes a component of or finished construction of turf materials. Style specifications are designated for yarns, backings and finished tufted materials.
Product	Synthetic Fiber:	Produced by man-made means, not available in nature in the same form.
Product	Synthetic turf:	Textile product designed to simulate the appearance and playability of natural turf utilizing a synthetic fiber turf blade constructed into fabric form.
Product	Texture Retention:	Texture retention or turf memory is the ability of tufts to retain their shape under traffic. Caring for turf will help texture retention.
Product	Texture:	The visual and tactile (touch) characteristics of the turf's pile. Texture includes luster, yarn twist, pile "hand", and pile effects such as cut, cut-uncut, high-low loop, and level loop.

Product	Texturing Yarn:	The process of imparting crimp to continuous filament yarns. Textured yarns have increased cover and resiliency.
Product	Thatch:	Part of a two yarn turf fiber system that has one yarn shorter than the other to resemble a thatch layer in natural turf. The thatch yarn is usually a texturized yarn that shrinks down below the higher straight yarn as it recovers the texture after tufting.
Product	Third Generation Turf:	A turf system with a taller pile height allowing resilient infill material to be added between the tufts. Third generation products perform more like natural turf and have a more natural appearance. The presence of resilient infill reduced the need for a shock pad which was required for first and second generation turf.
Product	Tuft Bind (Tuft Lock):	The force (usually measured in pounds) required to pull a tuft from the turf backing. Also known as tuft lock.
Product	Tufted:	Term used to describe the process of manufacturing turf by the insertion of tufts of yarn through a backing fabric, creating a pile surface of cut and/or loop ends. This term is used interchangeably it seems, for real turf lawns, or synthetic turf lawns. There are many varieties of synthetic turf on the market today. Synthetic turf lawn or turf products are manufactured using a wide variety of materials. Polypropylene, polyethylene, nylon are some of the yarn fibers used to create the real turf looking part of the synthetic turf product. Synthetic turf yarn or fibers can be stitched or ‘tufted’ into many different types of backing.
Product	Turf:	
Product	Twist:	Twist is the winding of the yarn around itself. More twist improves turf performance (especially in cut pile).
Product	Urethane Backing:	This is the most common synthetic turf backing. It looks like black plastic with holes drilled in it (perforated) for drainage. This is a crosslinked petroleum based product that creates problems for recycling turf fabric.
Product	Urethane Cushion:	Foam backing created during chemical/mechanical reaction. Standard thickness is 3mm, 5mm, 8mm
Product	Warranty:	See product warranty page.
Product	Woven:	Interlacing strands of fiber into a yarn forms woven turf.
Product	Yarn Recovery:	This means the standing back up of the synthetic turf lawn fibers after they are stepped on, or crushed down somehow. Infill helps in the recovery of the fibers.

Product	Yarn:	A continuous strand of fibers used in tufting, weaving and bonding to form turf and other fabrics.
Testing	Abrasion Resistant:	A measure of the fibers ability to withstand wear. Abrasion testing is performed mechanically by a tetrapod tester. Actual on-the-floor testing may also be conducted under regulated traffic conditions. Testing onsite at the installation is possible and accredited certification is required of testing facilities. ASTM F1015 is the test method that covers the measurement of the relative abrasiveness of synthetic turf playing surfaces. This test method is applicable to both laboratory and field measurement.
Testing	ASTM:	The American Society for Testing and Materials. An international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services. www.astm.org
Testing	Compaction Level:	This is the percentage of how hard the rock base is below the synthetic turf. See proctor density.
Testing	Degradation:	The loss of desirable physical properties of a material as a result of some process or physical/chemical phenomenon (e.g. UV degradation).
Testing	Delamination:	Separation of the secondary backing or attached cushion from the primary backing of the turf.
Testing	Durability:	Durability is the ability to resist degradation over time under a set of conditions.
Testing	Fading:	Loss of color. Caused by sunlight; atmospheric gases, including ozone, nitric oxide and hydrogen sulfide; cleaning and bleaching chemicals, such as sodium hypochlorite and other household and industrial products; chlorine chemicals for swimming pools; and other factors.
Testing	Fall Zone Safe:	Fall zone safe installations meet standards defined by ASTM guidelines that provide a minimum of 6 foot fall zone safe surfaces below and around any playground equipment installed above the synthetic turfs. Professionally installed only. The ASTM F1294 standard establishes minimum performance requirements for the impact attenuation of playground surfacing materials installed within the use zone of playground equipment.

Testing	Fiber Abrasion:	The damage caused by aggressive grooming equipment, heavy traffic with inappropriate footwear, unauthorized vehicle traffic or infill materials that degrade or wear the yarn fiber surfaces
Testing	FIFA:	The Fédération Internationale de Football Association is the international governing body of football (soccer). FIFA dictates performance characteristics required for FIFA recommended soccer fields.
Testing	Flammability:	The propensity of material to burn. See pill test.
Testing	G-max:	The maximum of the deceleration curve when a specified missile impacts the synthetic turf surface. This value is commonly related to the potential for head injuries for a person falling on the surface. The ASTM F1936 specification establishes an in situ test method and maximum impact attenuation value for all types of turf playing systems and for a number of sport-specific field layouts. It also includes a protocol for determining test point locations on fields that are lined for multiple sports. The g-max guideline in the STC's Guidelines for Synthetic Turf Performance is "below 165" for the life of the synthetic turf field. ASTM 355 is the test method measures the impact attenuation of playing surface systems and materials, specifically the peak impact acceleration (“impact shock”) produced under prescribed impact conditions.
Testing	Heat Index (HI):	The temperature the body feels when heat and humidity are combined. The wet-bulb globe temperature (WBGT) index is the most widely used and accepted index for the assessment of heat stress in industry. It has been published as British Standard BS EN 27243. Wet Bulb test is commonly used to determine heat index by many athletic coaches.
Testing	Hygrometer:	A device used to measure the moisture content. Can be used in to measure moisture content in concrete.
Testing	Impact Testing:	See Gmax
Testing	Lisport Test:	A test used in the turf field industry to simulate wear in turf systems. EN 15306 describes a method for conditioning synthetic turf and needle-punch surfaces by simulating interaction between a sports shoe and sports surface, to allow changes in appearance and to allow sports functional characteristics to be measured.

Testing	Permeability:	<p>The rate at which water flows through a system. EN 12616 utilizes three test methods for the determination of water infiltration rate. Method A is suitable for synthetic, textile, synthetic turf and bound mineral sports surfaces, Method B is suitable for natural turf and Method C is suitable for unbound mineral sports surfaces. Clay soils will be the least permeable and loam, sandy soils will typically be the most permeable (porous) of surfaces.</p>
Testing	Pill Test:	<p>A basic flammability test for turf to determine its ease of ignition by a small incendiary source, e.g., methenamine timed burning tablet. This is the accepted industry standard for synthetic turf flammability. ASTM D2859 is the fire-test-response standard and describes a test method for the determination of the flammability of finished textile floor covering materials when exposed to an ignition source under controlled laboratory conditions.</p>
Testing	Player-Surface Interaction:	<p>Player-surface interaction describes the performance characteristics of the field that relate to footing, shock absorbency, surface abrasion, and surface stability. These characteristics are determined through testing for vertical deformation, force reduction, traction, slip resistance, energy restitution, abrasiveness, among others. Proper shoe selection is a critical component to the way a player interacts with the playing surface. Test methods performed by accredited testing bodies.</p>
Testing	Porous:	<p>Porous describes that ability of a surface to allow liquid to flow through it. How porous a surface area is depends upon many factors and can be determined by percolation test. The Proctor Density is a measurement used to define the amount of compaction achieved with surface materials used under roads, railways and other surface areas that carry any weight load or require a measurement of compaction to determine stability. Good compaction of sub-base and base materials results in minimizing of its settlement on application of load, increases its density thus increasing its shear strength. The higher the Proctor Density test results the lower the area's permeability leading to a fall in its water absorption and reduction in its swelling or shrinkage. Most synthetic turf installations are compacted to a 95% Proctor Density to allow for percolation and yet provide a stable surface.</p>
Testing	Proctor Density:	

Testing	SDS:	<p>Safety Data Sheet or SDS is created by the manufacturer of a product to provide the details needing to be disclosed regarding the components and ingredients of products manufactured or imported into America. Your manufacturer or representative should have a copy of the SDS on all products included in your project plan. For commercial projects, keeping SDS on file for each component is critical as many solutions providers may use contact glues and adhesives that require special handling, disposal or fire control or safety issues.</p>
Testing Testing	Sieve Analysis Skin Abrasion:	<p>The measurement of the particle size range of granulated materials such as crumb rubber and silica sand. ASTM F1632 test method covers the determination of particle size distribution of putting green and other sand-based rootzone mixes. Particles larger than 0.05 mm (retained on a No. 270 sieve) are determined by sieving. The ASTM D5644 test methods describes the procedures for determining average particle size distribution of recycled vulcanizate particulate. Smaller numbers actually represent larger grain sizes (or mesh), larger numbers describe smaller and finer grains of material. To separate materials, a screening process is used to separate out various size grains to standardize on packaging for use.</p> <p>Cuts and burns to the skin caused by sliding contact with the turf.</p>
Testing	Static Electricity:	<p>AATCC 134 is the common test method for measuring static electrical on many flooring surfaces. Cold and low humidity often create isolated motionless charges of electricity. This test method assesses the static-generating propensity of carpets developed when a person walks across them. This method uses controlled laboratory simulation of conditions that may be encountered in use. The simulation is focused on the use of those conditions, which are known from experience to be strong contributors to excessive accumulation of static charges. To assist in lowering static charges on any synthetic turf surface, condition the synthetic turf surfaces with a 5 to 10% solution of fabric softener and water, sprayed generously across the surfaces. We recommend unscented liquid. Leave the materials on overnight and then rinse. You may need to repeat the application in a few weeks.</p>

Testing	Stimp Rating	The distance traveled by a golf ball during a Stimpmeter test. The Stimpmeter is a device used to measure the speed of a golf course putting green by applying a known force to a golf ball and measuring the distance traveled in feet. The recommended ratings as defined by the United States Golf Association (USGA) can have speeds ranging from slow (less than 6.5 ft), medium (6.5-7.5 ft), to fast (8.5 ft or greater).
Testing	Stitch Density:	Number of tufts both across (needles per inch or gauge for tufted turf) and lengthwise (stitches per inch) of the turf. $SPI \times Gauge = \text{Stitch Density}$. The ASTM D5793 test method describes the measurement of the number of binding sites per unit length or width of machine-made, woven, knitted, and tufted pile yarn floor covering both before and after adhesive backing application.
Testing	Tensile Strength:	The force required to elongate the material to a break point. ASTM 2256 test method covers the determination of tensile properties of monofilament, multifilament, and spun yarns, either single, plied, or cabled with the exception of yarns that stretch more than 5.0 % when tension is increased from 0.05 to 1.0 cN/tex [0.5 to 1.0 gf/tex].
Testing	Torsional Strength:	The force required to elongate the material to a break point.
Testing	Ultra Violet (UV) Resistance:	The ability of the material to resist degradation by UV light. ISO 4892-3:2013 specifies methods for exposing specimens to fluorescent UV radiation, heat and water in apparatus designed to simulate the weathering effects that occur when materials are exposed in actual end-use environments to global solar radiation, or to solar radiation through window glass. The most particular concern is the loss of useful tensile properties in the turf yarns to the point that the turf is deemed unsightly.
Testing	Weatherometer:	A laboratory device for determining the effects of light on the properties of turf, yarns, fibers, and fabrics. It uses a standard light source to simulate damaged caused by sunlight. Generally used for measuring loss of color and tensile strength.