



Frequently Asked Questions

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The Synthetic Turf Council provides the community with honest responses to their most frequently asked questions. Just click on a question and the answer will drop-down below it. We have compiled answers within the following topical categories:

- Synthetic Turf – General
- Health & Environmental Impact
- Player Usage & Injuries
- Cost, Installation, Maintenance and Disposal

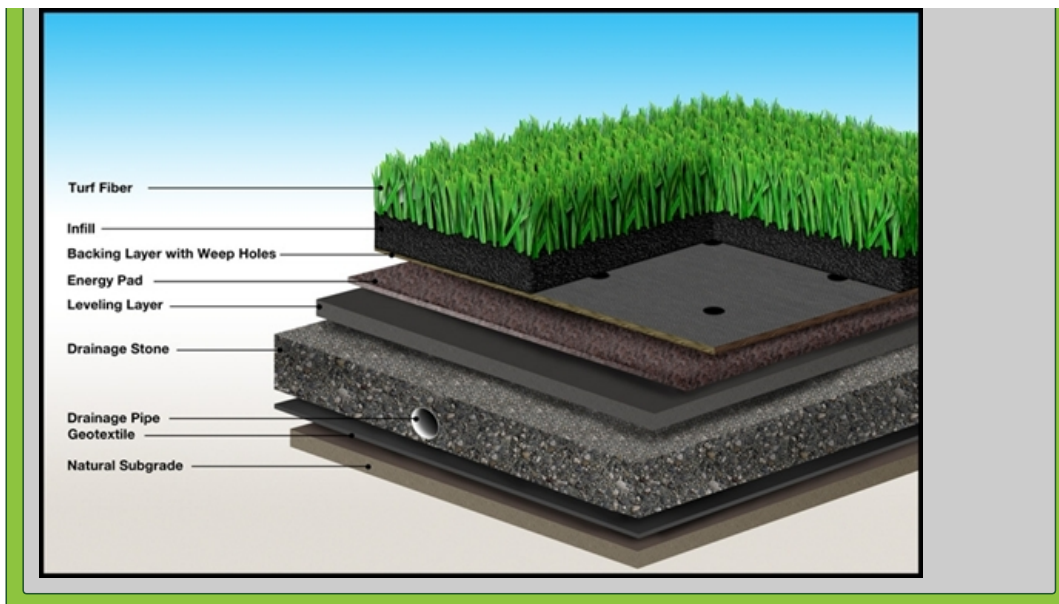
SYNTHETIC TURF – GENERAL

Q: What is synthetic turf?

The latest generation of synthetic turf is a grass-like ground cover that replicates lush natural grass in appearance and function. When used on athletic fields, it provides a consistent year-round, all-weather playing surface built to withstand extended use without downtime for recovery. As a landscape cover, synthetic turf provides a low maintenance, weed-free surface that doesn't need to be watered or fertilized, and is available in styles that look like the grass types that are prevalent locally.

Q: How is synthetic turf made?

Most synthetic turf systems installed today include a drainage layer, a multi-layered backing system, and resilient "grass" blades that are infilled with a granular filler to resemble natural turf. "Infilled" means that the man-made grass blades are interspersed with a top soil created with sand and/or granulated recycled tire rubber or other infill materials that provide the necessary stability, uniformity, and resiliency. Each blade customarily stands above the infill material. The typical blade length and system characteristics are determined by the specific activity requirements. In some applications, the synthetic turf system includes a pad or elastic layer underneath the turf, often in combination with lower pile height and less infill.



Q: How is the new generation of synthetic turf different from that of the past?

Increasing demand for high quality playing surfaces and intense competition for field accessibility has given rise to a new generation of synthetic turf systems that replicate the look and feel of lush, natural grass. While the first artificial turf systems used in the 1960's and 1970's were hard, significant advancements have been made during the past few decades. By the 1990's, the first synthetic turf systems with sand and rubber infill were introduced, which dramatically improved player performance and safety. Today's synthetic turf, used by many NFL franchises, as well as member associations and teams of the Union of European Football Associations (UEFA), Fédération Internationale de Football Association (FIFA), the International Rugby Board and other international sports federations, combines the playing characteristics, look and feel of natural turf, with the advantages of increased frequency of usage, extra revenue generation, safety, longer playing sessions, fewer canceled games, and lowest cost per playing day.

Q: Why has synthetic turf become so popular over the past few years?

Synthetic turf is a smart solution for playing fields and landscape that have become unsafe and unsightly from overuse or severe climatic conditions. A grass field simply cannot remain lush and resilient if it is used more than three to four days a week, or in the rain, or during the months when grass doesn't grow. This fact, coupled with an escalating need for durable fields that accommodate multiple sports teams and activities, the high cost of maintaining a grass sports field, and the need to conserve water, have prompted a rising number of schools and parks to turn to synthetic turf to meet their program needs. Today's synthetic turf is designed to simulate the experience of practicing and playing on the best grass fields.

Demand has grown to the point where more than 8,000 multi-use synthetic turf sports fields are now enjoyed in North American schools, colleges, parks and professional sports stadiums. About half of all NFL teams currently play their games on synthetic turf and, since 2003, over 70 FIFA U-17 and U-20 World Cup matches have been played on synthetic turf soccer fields.

Q: How popular is synthetic grass for landscape and recreation use?

Synthetic grass for landscape, golf and other recreation applications is the fastest growing segment of the synthetic turf market. Over 35 million square feet of synthetic grass for landscape and recreation use was installed in 2012.

Q: How is synthetic turf being used in the landscape and recreation market?

Thousands of homes, businesses, golf courses, municipalities, parks and tourist attractions like Disneyland and Steve Wynn's Las Vegas resorts have turned to synthetic grass to provide a lush, attractive landscape solution that requires minimal resources and maintenance while saving millions of gallons of water each year. It is also a smart way to beautify public spaces such as highway medians and airport landing strips that would otherwise be difficult and expensive to maintain. Synthetic grass reduces city maintenance costs, freeing tax dollars for other purposes.

Synthetic turf also promotes greater utilization of land, as you can do more with the same space surface than with natural grass. Rooftops once deemed unusable for high rises and residential buildings can now feature inviting green area. Hotels that had to restrict the use of lawns for parties and events can now schedule as many functions as they can book.

Q: What are the different types of infill materials?

Crumb Rubber: Crumb Rubber is derived from scrap car and truck tires that are ground up and recycled. Two types of crumb rubber infill exist: Ambient and Cryogenic. Together these make up the most widely used infill in the synthetic sports field and landscape market. Crumb rubber infill is substantially metal free, and, according to the STC Guidelines for Crumb Rubber Infill, should not contain liberated fiber in an amount that exceeds .01% of the total weight of crumb rubber, or .6 lbs. per ton. Read more in our new [Crumb Rubber FAQ section](#).

Coated Rubber Infill: Both ambient and cryogenic rubber can be coated with colorants, sealers, or anti-microbial substances if desired. Coated rubber provides additional aesthetic appeal, reduction of dust by products during the manufacturing process and complete encapsulation of the rubber particle.

EPDM Infill: 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.

Organic Infill: There are several organic infills available in the North American market, all utilizing different organic components, such as natural cork and/or ground fibers from the outside shell of the coconut. 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.

Sand (Silica) Infill: Pure silica sand is one of the original infilling materials utilized in synthetic turf. This product is a natural infill that is non-toxic, chemically stable and fracture resistant. Silica sand infills are typically tan, off-tan or white in color and - depending upon plant location - may be round

or sub-round in particle shape. As a natural product there is no possibility of 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 Infill: 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.

TPE Infill: Thermo plastic elastomer (TPE) infill is non-toxic, heavy metal free, available in a variety of colors that resist fading, very long lasting, and 100% recyclable and reusable as infill when the field is replaced. TPE infill, when utilizing virgin-based resins, will offer consistent performance and excellent g-max over a wide temperature range.

HEALTH & ENVIRONMENTAL IMPACT

Q: How does synthetic turf impact the environment?

Q: Is synthetic turf safe?

Q: Should I be concerned about lead in my field?

Q: Is crumb rubber safe?

Q: What impact does heat have on my synthetic turf field?