

# Considering Synthetic Turf

## *What you need to know*

BY CORY JENNER

**H**aving quality athletic fields is not only appealing to fans, but important for player safety. While there are many factors to consider when planning a new athletic field or stadium, one in particular is whether natural grass or synthetic turf is the best option. For those who have decided that a synthetic-turf field will fulfill your goals, take a look at some key points to consider regarding the design, installation, and maintenance of your new field.

Synthetic turf has evolved and improved significantly since its inception in the early 1960s. The first synthetic turfs to be installed were not aesthetically pleasing, and while owners praised the reduced maintenance, the turf



became known as an unforgiving playing surface for athletes. Regarding safety, the abrasive nylon carpets that were originally produced have been replaced with a polypropylene fabric, and an array of different infill options allow for more cushion for players.

### THE BENEFITS

■ In climates that experience cold and wet seasons, synthetic-turf fields offer a longer playability season—they can be used earlier in the spring and later in the fall.

■ Proper snow-removal methods allow year-round use of fields, if desired.





■ Since vertically draining systems are used, synthetic-turf fields are also able to be used more quickly after wet weather, due to the high permeability of the turf system, which allows water to flow faster.

■ Synthetic turf does not require a rejuvenation period to maintain optimum playing conditions. Ideally, natural grass fields will have a period of rest each season to recover from excessive use.

■ Synthetic turf provides a useable outdoor space for functions besides sporting events, including physical-education classes and general outdoor activities.

■ Synthetic-turf carpets generally have a lifespan of 10 to 15 years before replacement is needed, and worn sections can be replaced in the interim if necessary.

■ Not only can fields be lined for football, soccer, lacrosse, and field hockey, but synthetic-turf fields can be designed with baseball and softball fields, rugby, physical education, and marching band overlays at the owner's request. This allows a maximum number of users to benefit from the advantages of synthetic turf.

### THE DRAWBACKS

■ Synthetic-turf fields are a more costly, up-front expense than designing or restoring a natural-grass field.

■ After the pre-determined lifespan (depending on the system), it is recommended to replace the entire synthetic-turf carpet.

While it is true that the design and installation of a synthetic-turf field requires a higher initial investment, the maintenance costs are roughly 32 percent less annually, and synthetic-turf fields can host six times more two-hour events each year.



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## THE DESIGN

It is important that the design team evaluates all factors necessary for security, safety, and maintenance. Holistic stadium design involves many elements in addition to the field. An outdoor athletic stadium is comprised of a wide array of components, including drainage, seating, parking, circulation, security, press box, storage, concessions, etc.

When these items are identified with the owner, the design consultant will provide a site plan, conceptual diagram, or 3-D rendering for planning and visualization purposes. These planning stages are critical; good planning leads to good facilities. These tools allow the owner to visualize the orientation of the field, the colors, logos, and lines on the field, as well as the placement of field appurtenances. These plans can serve as a basis for the evolution of the field design and can be modified accordingly. In addition to helping position and



G-max rating is also a consideration when selecting a synthetic turf. Impact-testing measures shock-attenuation, which is a standard for athletic-field safety-testing and is useful in assessing the playability of a field. The Synthetic Turf Council standard for G-max rating is below 165 for the life of the synthetic-turf field.

## CONSTRUCTION

Once a turf system has been selected and the field has been designed, construction is ready to begin. Construction oversight is an important part of the design team's job in delivering a quality finished product. Through routine site visits, the project manager will monitor the shape of the subgrade and perform a multitude of tests to ensure compliance with contract documents. These tests assess permeability, compaction, planarity of the gravel blanket, and G-max rating. The project manager will also check the finishing stone and seams. All of these items are crucial to functionality, maintenance, and safety of the field.



visualize the field, these color renderings can serve as a useful tool for fundraising efforts and to inform the community of the design.

As the design is finalized, the owner is tasked with selecting the turf system that best fits the needs. The design team is at hand to assist the owner in interpreting the plethora of information and specifications unique to each system. A few key items to consider include base materials, infill type and depths, tufting gauge, stitch rate, seam type, G-max rating, and warranty information.

These features have varied throughout the evolution of synthetic-turf systems. Infill types, for example, used to be all rubber, all sand, or a blend of the two components. Now, options range from natural infills, thermoplastic elastomers, recycled components, virgin-rubber particulates, rubber-coated sand, and more. The combination of these elements affects the feel and play of the field, and they can be customized to the owner's satisfaction.



## MAINTENANCE

Once the field and surrounding stadium is complete, it is important to understand the maintenance procedures. Keeping synthetic-turf fields in pristine condition requires certain maintenance techniques on a periodic basis. Sweeping, vacuuming, dragging, and brushing the field are important to remove debris and redistribute the infill evenly. There are also protocols in place for snow and ice removal, waste removal, and disinfection of the field. Regular G-max testing is also recommended. Accurate records should be kept of field

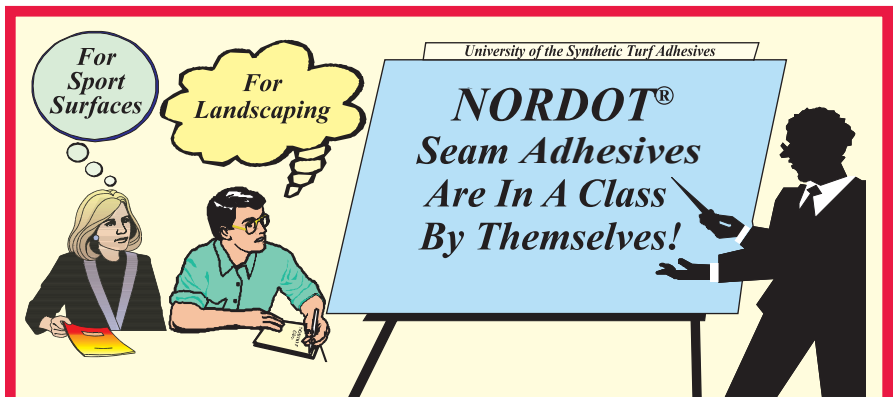


maintenance, and all repairs should be performed by a certified installer. The design professional will assist the owner in understanding these procedures before closing out the project. **PRB**

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