

Maintenance guidelines from the STC, Part I

As synthetic turf's popularity increases, it's important to know the value of proper synthetic turf maintenance. Putting time into your field, even for a couple of hours each week, will keep it looking well-manicured, and more importantly maintain its safety characteristics, and add to the field's longevity. The following is an edited version of the Synthetic Turf Council's (STC) Maintenance Manual, published in 2007. The second half will appear in the August issue.

Maintenance of an infilled synthetic surface is essential. While the maintenance and upkeep of an infilled synthetic surface is considerably less than other designs, it must be properly applied. The basic behavioral characteristics of synthetic turf systems must be understood because they dictate the maintenance required.

In developing these guidelines, the Synthetic Turf Council has considered and incorporated, where applicable, the field experience of its members and other qualified entities. They stress that the provider of the syn-

Turf grooming brush





Synthetic turf rake and brush

thetic turf system and the owner must agree on the need for maintenance.

These guidelines provide the end-user/owner/client with a means of realistically evaluating the maintenance that is recommended for a synthetic surface, based on its intended use. Routine maintenance, as well as periodic intense maintenance, is essential to the life and performance of the infilled synthetic surfaces.

By definition synthetic turf fields are, in essence, a system that provides a synthetic playing surface, cushioning, drainage, and a properly prepared base. Routine maintenance, as a practical matter, is primarily applied to the top surface

where the action takes place and where it is most conspicuously observed.

Maintenance should be performed by personnel trained and knowledgeable about the specific ingredients/materials of the specified/installed system and the equipment properly used for field maintenance applications. Such personnel should be prequalified as to their expertise and knowledge of the process. When such qualified personnel can be identified, they are customarily employed by the facility management, or outsourced by facility management to a maintenance subcontractor, or contracted by the provider/manufacture of the system.

It is the intent of this Guideline document to augment the maintenance instructions provided by the manufacturer and/or initial provider of the system. In the event that manufacturer/provider instructions are provided, a review of these provisions should be made and their effect on warranties understood. Any conflict should be corrected between the parties in order to prevent the voiding of the warranties provided.

This Guideline also serves to provide an understanding of the minimum requirements by owners of a field or those who have been given the responsibility for the maintenance. It serves to make all parties to the system aware of the

important role proper maintenance plays in achieving the overall performance of the synthetic turf system.

Maintenance is vital if the surface is to maintain its appearance and to provide consistency of play, permeability, and longevity. The basic objectives of effective maintenance are that:

- the playing surface is kept clean; airborne contaminants are removed;
- the playing surface remains level and of consistent texture so that it gives a true and predictable performance;
- the infill materials are evenly distributed;
- the effective drainage of surface water is maintained throughout the life of the field's surface;
- the system does not become over compacted and hard;
- the facility is consistently attractive and well-kept.

Identify your system. The specifics of the synthetic surface, fiber, infill, construction, play lines, and any other basic elements or unusual features must be accurately identified so that the appropriate maintenance regimen can be applied. Your system provider should be the source for this info.

Fibers vary in length, thickness, and density depending upon the performance requirements of your synthetic turf system. Long pile systems may be filled with a combination of sand and rubber granules, rubber granules only, or a combination of other specialty materials in order to meet the predetermined performance criteria. The sand material used as infill should be rounded to sub-angular and silt free.

The rubber granules used as infill material are typically styrene butadiene rubber (SBR) or ethylene propylene dien polymerisat (EPDM.) The granules must be clean and metal free. Combinations of sand, rubber or other suitable materials in various combinations must be capable of meeting all the guidelines and environmental requirements at the installation location.

Tufted is the most commonly used process by which the fiber yarns that form the pile are inserted into a previously prepared blanket-like primary backing. Woven is the process where the surface is composed of interlacing sets of continuous yarn while knitted means the yarn fibers of the pile are tied to the backing which was simul-

taneously constructed in the same over and under, criss-cross process.

The permanent play lines defining the field of play can be tufted into the surface backing or are an integral part with the surface, having been inlaid or cut into the surface with designated colors. Temporary play lines are painted onto the surface but require frequent attention, repainting, or repair to maintain their appearance. Frequent inspection is recommended.

Maintenance procedures. These processes will help assure continued performance of the system as specified in relation to the declared purpose and use of the synthetic turf surface.

Airborne pollutants such as leaves and other debris should not be allowed to remain on the surface for any length of time. If not removed, they will migrate into the system, forming a drainage inhibition within the surface that can reduce drainage.

A wide soft broom can be used for removing the surface debris. A mechanical leaf sweeper or special vacuum cleaner that does not remove the fill can speed up the operation. Such equipment must be well maintained and carefully operated to avoid contamination or physical damage to the surface.

Proper grooming "freshens" the synthetic turf surface appearance and is crucial to help prevent the premature deterioration of the performance characteristics, appearance, and drainage properties. Mechanical grooming can accelerate the process when the proper equipment is chosen and operated by skilled personnel.

Drainage is essential to effective maintenance. It is possible that the bed of infill material serves as a filter. Infill can unavoidably retain inert particulate matter conveyed or blown onto the field or carried by rainfall or other air contaminants. By moving and re-leveling the upper layers of infill, mechanical grooming can delay the timeline when problems may begin to occur in the normal course of use, which could reduce the drainage process.

Accumulation of unwanted or foreign materials is inevitable. Too much grooming, or the negligence of grooming, can affect the long term turf performance, even if such does not appear in the short run. Should a contaminant have growth potential, the species and its eradication agents should be carefully identified and removal should be immediate before serious infestation occurs. Equipment designed for that specific purpose

must be operated by killed personnel who have precise knowledge of its effects. Routine maintenance can reduce the long term effects of any external contaminants, making such occurrences almost a non-issue.

It is important that the synthetic turf pile is maintained vertically. Regular brushing is an important function that must not be overlooked or neglected. The surface should be brushed in a number of directions, alternating the direction in consecutive activities, but generally in the direction of the individual panels to avoid crossing over the main seams.

Equipment selection. Turf and maintenance equipment manufacturer's advice should be sought when considering any type of maintenance operation and the use of any equipment or procedures not recommended by the manufacturer of the system. The objectives of the maintenance process must be understood. No two machines will operate to the same degree of efficiency and effectiveness. The condition of the surface will also affect the operation of the equipment. Both conditions should be evaluated.

Most maintenance equipment utilizes a brush or brushing action. It is critical that the type of brush used does not abuse the condition of the surface. Drag brushes behind the power unit are normally not recommended because they tend to flatten the pile and generate the need to implement the cleaning operation twice or more unnecessarily. If drag brushes are to be considered, a test strip should be used to determine whether or not the effect and process of those brushes are desired. Brushes that have a rotary action in a horizontal position in front of the pile unit are preferred since they agitate the blades of the synthetic turf. The simultaneous vacuuming action should remove the undesired pollutants and debris.

Power brushing equipment may agitate the infill to various degrees. The type of brushing, vacuuming, de-compacting, and final grooming should be relevant to the end result. The objective of each grooming routine should be determined prior to initiating the selection of the maintenance equipment, i.e., stand up of the pile and clean or level the infill within the pile; provide uniform performance characteristics; etc. ■

This information provided by the Synthetic Turf Council, www.syntheticurf.org.