



MAINTENANCE OVERVIEW

Maintaining your Sports Field

This guide will help you to maximize the appearance, longevity, safety, and consistency of your field's surface.

Maintenance Procedures

The basic objectives of effective maintenance are that:

- I. The playing surface is kept clean on a consistent basis;
- II. The playing surface remains level and of consistent texture so that it gives a true and predictable performance;
- III. The infill materials are evenly distributed and kept at the correct levels;
- IV. The effective drainage of surface water is managed throughout the life of the field's surface;
- V. The playing surface does not become over compacted and hard;
- VI. Maintenance programs should be designed to ensure that these objectives are achieved.

General surface cleaning.

- I. Surface debris such as leaves and other loose 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 which can reduce drainage effectiveness.
- II. A wide soft broom can be used for removing the surface debris. A mechanical leaf sweeper or special vacuum cleaner which 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.

Grooming.

- I. Proper grooming of the synthetic turf surface improves the appearance and consistency. It is a crucial operation which will help prevent the premature deterioration of the performance characteristics, appearance, and drainage properties.
- II. Mechanical grooming can accelerate the process when the proper equipment is chosen and operated by skilled personnel.
- III. 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 affect the overall drainage of your field.

- IV. 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 a 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 skilled personnel who have precise knowledge of its effects.
- V. Routine maintenance, if regularly applied, can reduce the long term effects of any external contaminants, making such occurrences almost a non-issue.

Brushing.

- I. 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.

- I. Challenger Industries recommends different equipment for different applications and you should consult with your Challenger sales representative before making any equipment purchases to insure that the objectives of this maintenance guide are being met and are understood.
- II. 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 and should be evaluated and considered.
- III. Most maintenance equipment utilizes a brush or brushing action. It is critical that the type of brush used does not abuse 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.
- IV. 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.

Frequency.

- I. A change in the use patterns and the intensity of play can influence the frequency of maintenance.
- II. Challenger Industries should be consulted to recommend an initial maintenance schedule. It may take up to six months for the infill to finally settle into the pile of the synthetic turf. Additional infill may be required to maintain proper levels. Environmental/climatic and use conditions may also affect the final settling. Testing of the synthetic surface should occur as noted in the "Suggested Guidelines for the Essential Elements of Synthetic Turf Systems," published by the Synthetic Turf Council, and available on its website, www.syntheticurfCouncil.org.

Play lines.

- I. A synthetic turf system would normally be supplied with permanently inlaid play lines. The number of sports to be included and whether the lines are to be inlaid or painted on the surface should be decided prior to construction. If additional lines are required for special events or changes in the sports being played, these can be painted onto the surface using proprietary or recommended paints. Some of these are more effective than others and consultation with the manufacturer is essential. Permanent, semi-permanent, or temporary effects can be determined ahead of time. Natural grass field paints are NOT recommended.
- II. Permanent lines require no special attention other than checking how secure they are affixed. Such a check, as a minimum, should also be made at every grooming session of the seams in the synthetic turf field. Any breakdown of the seams at lines or in the main covering should be immediately remedied in order to avoid ongoing deterioration and to help prevent tripping hazards.

Stain removal.

- I. Most stains can be removed easily with a solution of warm water and a manufacturer's approved household detergent. Removal of chewing gum can be simplified by making the gum brittle with a proprietary aerosol freezing material. Any other contamination requires the turf manufacturer's individual consultation and determination of what course of action is to be taken.

Snow and ice.

- I. Snow and ice are not harmful and can be permitted to melt. If it is urgent to remove the snow in order to allow play, brushes may be used. If the area to be cleared is a full field size, logistics of transporting and disposing of snow may prove prohibitive. It is not advisable to use mechanical snow removal equipment other than the equipment recommended by Challenger Industries.

Footwear and general care.

- I. Suitable footwear should always be used. Most shoe manufacturers manufacture footwear specifically designed for the sport played. Most long pile systems are designed to take a normal soccer stud but, if any doubt exists, please consult your Challenger sales representative.

External contaminants.

- I. It is strongly recommended that smoking and the use of chewing gum and sunflower seeds be prohibited on the field. These activities can cause permanent damage and affect the maintenance process.

Use patterns.

- I. Whenever possible, use patterns should be evenly distributed over the entire field; i.e., alternating usage patterns should be employed. The way a field is used can have a significant long-term effect on the quality of the surface and its playing characteristics. When activities are concentrated in one location or a more frequently used pattern, the surface will have a tendency to harden and infill displacement can take place. This could have a negative effect or by-pass the performance characteristic criteria. Such areas need a higher concentration of maintenance than areas where the surface is not used to the same extent. Even when the surface is not used, it still requires maintenance to deter deterioration. The intensity of such maintenance should be discussed with the manufacturer and/or qualified maintenance contractor. Maintenance input is dependent upon the extent to which a field is used and the effectiveness of the maintenance operations. End-users and owners of the field are to maintain a record of all maintenance operations on a log so they can be analyzed.

Fiber damage.

- I. Excessive brushing can cause fiber damage (splitting) which, at first, has a tendency to make the surface feel softer but in the long run destroys its performance characteristics. Insufficient maintenance contributes to contamination and compacting. Use of the field, the quality of the system, and the geographical location will determine the type and frequency of maintenance appropriate to the fiber. This should be discussed with Challenger Industries at the time of selecting the type of system to be installed and at the time of the completion and acceptance of the field. Any effects upon the maintenance schedule due to a change of use or condition of the field should be discussed at the completion of the installation as a contingency.

Tools and equipment.

- I. Experience has demonstrated that the longevity of the field and the effectiveness of the maintenance are very much dependent upon the use of proper tools and equipment and the skills of the operator. The criteria and specification of the tools and equipment to be used should be understood at the time the field is accepted by the owner/user.
- II. The type and quality of the equipment should be suited to the use and construction of the field. Proper selection is an essential element to the successful application of the maintenance procedures. The desired performance of the equipment must be able to restore the characteristics of the surface without damage. It is essential that a discussion take place between the provider, the maintenance equipment manufacturer, and the owner prior to acceptance of the field. Pre-testing of the equipment on location may assist in the selection process.
- III. Challenger Industries recommends “GreensGroomer Worldwide” Synthetic Turf Conditioning Groomer.



- Synthetic Sports Turf Groomer works with all fill material currently used, in both wet and dry conditions.
- Patented brush design lifts turf fibers leaving them in a plush, upright

position.

- Brushes move fill to low spots or depressions left after play.
- Synthetic Super Duty Blue Brushes retain their original shape, resist wear, and will not rot.
- GreensSlicer Spring Tine Rake consists of 3 rows of 28 tines spaced 7/8 inch apart for thorough coverage.
- Each row of tines may be adjusted to the desired level of aggressiveness.
- The GreensSlicer combs through the fill material, relieving compaction and assuring a soft, level playing surface.



Synthetic Super Duty Blue Brushes -
Resist wear and will not deteriorate
from moisture.



GreensSlicer Spring Tine Rake - 3
rows of 28 tines.



Spring Tine Rake Brush Attachment

- IV. Light loose debris can be removed using the Estate Master Turf Sweeper - EM05100M by Parker



Watering.

- I. When a field is to be watered, distribution should be evenly applied over the entire area. The surface should be dampened and not soaked or saturated. Clean water should be used at all times for this purpose.

Use of vehicles.

- I. Turning should be done in a wide radius to avoid sharp turns. The vehicle should turn its wheels only when in motion. All vehicles should circulate at slow speeds and abrupt and sudden braking should be avoided as well as sudden acceleration or spinning of the wheels, especially on wet surfaces. Load limits to be determined by the designer/manufacturer.
- II. All vehicles must be checked before use to determine oil or gas leaks. If such are found, they should be repaired before entry onto the field.

Normal Maintenance.

- I. Daily: Check the field after each day's use for distribution and condition of the heavily played areas.
- II. Weekly: Brush the surface of the field with a static (non-rotary) double brush including simultaneous vacuum devices to redistribute the infill, maintain vertical fibers, and a level playing "use" field.
- III. Monthly: Check infill levels, seams, inlaid lines, etc., and report failures (if any) to Challenger Industries. Also check for over compaction and de-compact as may be necessary. It is essential that the appropriate equipment is used in order to achieve the specified performance criteria.
- IV. Periodically: At least once a year a full grooming session should take place brushing (rotating unit), vacuuming, de-compacting, and grooming (static brush). Top dress with new infill may be required. Contact your Challenger sales representative if any aspect of the maintenance process is causing a significant concern.

Record Keeping.

- I. A log of all maintenance operations carried out after acceptance of the field should be maintained by the field/grounds manager in order to facilitate the analysis of any irregularities.
- II. It is important that each and every maintenance operation, no matter how minor, be recorded in the log.



MAINTENANCE OVERVIEW GUIDELINES SUGGESTED BY SYNTHETIC TURF COUNCIL

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**MAINTENANCE MANUAL
SUGGESTED GUIDELINES
for the
MAINTENANCE
of
INFILLED SYNTHETIC TURF SURFACES
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