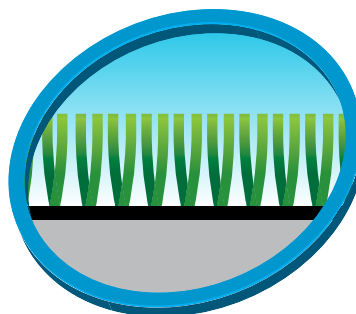

'Lessons Learned': Peer Advice on the Management of Synthetic Sports Fields

Introduction

As synthetic field materials continue to evolve, so do the techniques to manage them. Whether you are new to the management of a synthetic field or a seasoned expert, you may find these practices helpful in ensuring the quality of the playing surface. These tips are merely that – practices that have worked for your fellow sports turf managers. STMA recommends that you always review your manufacturer's information on maintenance and the warranty information before implementing any of these suggestions.

This is the fifth advisory bulletin on synthetic turf and natural grass athletic fields in a series developed by the Sports Turf Managers Association (STMA). The bulletins are sequenced to provide information and resources throughout the process of selecting, building and managing a sports field. For more information, contact the STMA, ph. 800-323-3875.



The content of this bulletin is intended for informational purposes and is not intended as a substitute for specific professional consultation.

Practical Tips

1. Synthetic surfaces can become extremely hot from the sun and ambient temperatures. Institute and enforce strict rules on field use and surface temperatures.
2. Sunflower and other shells are difficult to get out, so try to limit their use on synthetic turf. Small leaves from trees or shrubs can be even more difficult to remove. Using a leaf blower, particularly a wheeled blower, is more effective in removing debris without disturbing the crumb rubber than using a back pack or hand-held blower. However, this is more time consuming than using a debris sweeper.
3. Debris left on a field can cause excessive wear. Again as noted above, use a leaf blower to remove debris from the fields. Blow the trash to the edge of the fields or onto an athletic track for easy trash pick-up, being careful not to displace large amounts of crumb rubber.
4. Gum can be removed by using an aerosol freezing agent or ice cubes that will allow you to then crack the gum, and take it out in small pieces. A spaghetti server or a dog's 'under-fur' comb lightly lubricated with WD-40 works well to remove the gum from the fibers. This also works on chewing tobacco.
5. Inspect all equipment for leaks of oil, hydraulic fluid, fuel etc., before operating it on the field. These substances are difficult to remove and can react with the rubber infill.
6. Too much brooming (stiff bristled brush for aesthetics) can fibrillate the fibers too much, which causes excessive wear. When grooming (metal spring tines that ease compaction) the field, use a machine that minimizes fibrillation of the fibers. Too little grooming can cause the surface to become compacted and the infill to migrate, which makes the field unsafe for play. Rotary brooms and/or sweepers are more detrimental to the fibrillation of the fibers than a stationary broom that is pulled across the turf. However, the Synthetic Turf Council (www.syntheticurfCouncil.org) recommends mechanical brushes rotating in a horizontal direction. The use of metal leaf rakes, similar to those used on infields, pulled behind a cart will reduce compaction of the infill with little or no disturbance of the seams and joints. This works well in high use areas like soccer and field hockey corners, where concentrated play occurs. Because turf differs widely based on age of the product and style, different brushes and techniques may be required for each type of turf. Brooming and grooming should be done on an as-needed basis to maintain a safe surface, but not so much that it hastens the degradation of fibers. Always consult with your manufacturer for specific requirements on brooming and grooming practices.



Grooming the field to prepare for game day.
Photo: Darian Daily.

7. Never fill gas tanks on the field. Gas will react with the rubber infill and release toxins. Rubber that has been exposed to gas needs to be completely removed and replaced because it is an environmental hazard.

8. If plowing snow off of infill products, care must be taken to not move too much of the infill material. Care must also be taken to not catch and pull a seam open with the snowplowing equipment. There are many options available to customize a snow plow or purchase specific equipment. Here are two examples of ways to adapt a snow plow for use on synthetic turf. Use a rounded piece of stock metal welded to the bottom of the plow blade. The round metal will not dig into the turf. Or, wire a piece of PCV pipe with a slit in its wall to the bottom of the plow blade. Beware that the plastic pipe-on-plastic turf will generate static electricity causing more crumb rubber to be removed. To decrease the static electricity charge, install a static drag chain behind the plastic pipe.



9. Fire and excessive heat will melt the fibers. Rubber infill is flammable and can be difficult to extinguish. Prohibit flaming batons, food heating or preparation, fireworks, smoking and other activities that could cause burning. Fire extinguishers should always be charged, available and labeled for use.

10. Use of fabric softeners actually does help curb static cling of rubber to fibers, and a wetting agent should be considered for use to help break a very strong hydrophobic reaction within the infill, especially on newer fields.



11. Flat-soled tennis shoes cause much more wear on synthetic fields than rubber cleats. A marching band can cause significantly more wear during a single half-time performance than the football team can cause in a week of practice and play.

12. Go over the field periodically with a magnet to pick up any stray metal.

13. There are many techniques and tips to successfully marking a synthetic field and removing the paint. Here are the top pointers from sports turf managers.

a. Make absolutely sure of the measurements before you paint. Measure twice and paint only once. You do not want to have to remove the paint once you realize a measurement is incorrect.

b. Use only paint that has been approved for use on synthetic surfaces. Not all paints that are advertised as “removable” are engineered to be removable. Products that are supposed to be removed with well-known, name brand cleaners will usually only be removable before the paint has fully cured. Once it has fully cured, removing it can be very difficult.

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- c. If in doubt about which paint to use, choose an easier-to-remove, less durable paint over more durable, less easy-to-remove paint.
 - d. When removing paint during the hot months, do so early in the morning when the field is at its coolest. The longer the paint bakes on the surface, the harder the removal.
 - e. In hotter, drier climates removable paints are more durable (and can be harder to remove) than in colder, wetter climates.
 - f. The key to removing paint directly correlates to how it is applied. It was thought that **low** pressure application (50 psi) was best and afforded easier removal, but it has been observed that airless **high** pressure equipment actually atomizes the paint. Contrary to original thought, it actually coats the fibers more and the infill less when proper nozzles and gun techniques are used, thus making removal easier.
 - g. A 317 tip (or equivalent) at about 1000 psi gives good paint coverage without spraying paint into the infill. The same general performance can be achieved with spray machines at 25-60 psi. Machines that use CO2 for pressurization should never be used for paints designed for marking synthetic turf.
 - h. Use the least amount of paint necessary to provide the look you want to achieve. Those who use brushes or rollers tend to over-apply paint. Too much paint will stiffen the turf fibers and make removal more difficult.
 - i. It is easier to remove paint from green synthetic turf than from white synthetic turf.

