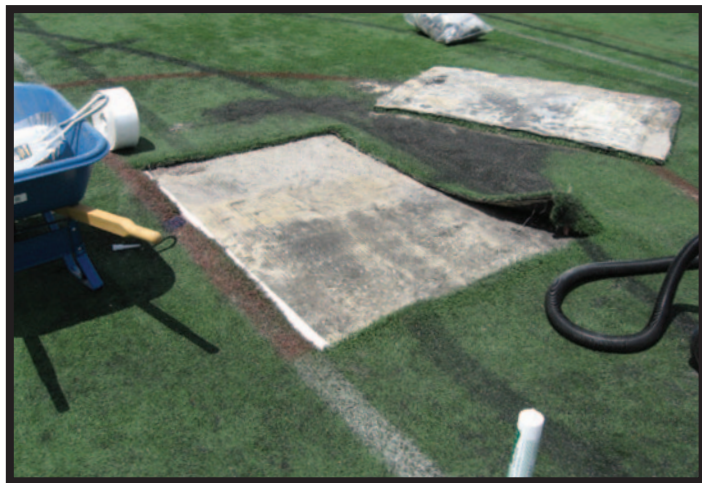


THE BASICS of maintaining synthetic turf

LET'S BEGIN by acknowledging that synthetic infill fields are NOT maintenance free. No matter what anyone says, these fields need maintenance routinely. Secondly, what comes out of these fields must be replaced, meaning that the infill material disappears from the field as it is carried off by players, wind, rain, snow, snow removal, routine maintenance, etc, and being that the infill material is the supporting substance of these fields, it will need to be replaced.

When we service a field we typically find that most fields are lacking infill material whether it's all crumb rubber or rubber/sand mix; we also find the turf fibers are laid over with minimal support



>>Above: **IF YOU HAVE TO DEAL** with patching, contact the manufacturer or a reputable service company. There are special materials that you will need and the local hardware store, big or small, does not carry them.



>> Above left: **IF YOUR TURF** is surrounded by bermudagrass or any other creeping stolon-producing grass, be prepared! >> Above right: **DUST**, dirt, pollen, body skin cells, screws, nails, track spikes, bobby pins and human hair to name a few do not break down in these fields; it is truly amazing how much exists.



causing them to prematurely break off. But the worst enemy to the synthetic fibers is the sun and ultraviolet rays that it must endure day after day. By maintaining a proper amount of crumb rubber and allowing approximately only a 1/2 to 3/4 inch of exposed fiber, you are preventing the fibers from folding over and lessening the amount of material breakdown due to ultraviolet rays. On average an athlete or end user will carry off 3-4 pounds of infill material during a playing season. This needs to be replaced annually to support the fibers and provide longevity for the playing surface.

To calculate your needs, you need to measure the amount of crumb rubber in a variety locations within the synthetic field boundaries (we measure 10 locations using the ASTM 1936-10 guidelines for Gmax testing as our test points) to determine what you have. If your turf is 2 1/4 inches tall and you have less than 1 1/2 to 1 3/4 inches of infill, you need to add more. Most crumb rubber infill calculates to 0.55 pounds per square foot for a 1/4-inch lift. Most rubber/sand infill systems will not need additional sand as it tends to stay stable within the turf. There are rare occasions when the sand is removed due to operations like snow plowing or torrential downpours that cause flooding; if this occurs you will need to be added to the mix.

GROOMING ESSENTIAL

Grooming the field is an essential maintenance task that needs to be better understood. It is highly recommended to use a good groomer designed for synthetic turf such as the Greens Groomer or the Wiedenmann units. When using any groomer, adjusting it so that it lightly touches the fibers will provide the best results. Do not lower the entire weight of the groomer onto the turf unless you are trying to level out or move crumb rubber to fill an area such as a lacrosse goal crease. When tickling the fibers with the groomer's brushes the intent is to stand the fibers up to minimize the lay over from use.

Often I am asked how much or how often should I groom my field. There is no true, exact answer but from my experience I recommend that the field be groomed every 300-350 hours of use. I have read on the web articles saying 400-500 or more hours and much depends on the manpower available. At minimum it should be groomed several times during the highest use periods and less during the down times (if there is such a thing).

Trash and debris removal is another constant nuisance and needs to be done whenever it exists. Timely removal is important to keep the trash and debris from becoming ground into the infill material, which causes removal problems later. Sunflower seeds, chewing gum, candy wrappers, cigarette butts, wire ties from nets, and broken sand bags or stone bags used for weighting down goals are just some of the typical items we see when deep-cleaning a field.

Removal of chewing gum is largely overlooked and needs to be addressed as soon as possible; most chewing gums today never harden and with the intense heat in the field it becomes gooey and eventually spreads across the turf surface. To remove use either ice cubes or a freezing spray agent to harden the gum, chip it off and remove it.

Weeds can exist and thrive in synthetic turf and if your turf is surrounded by bermudagrass or any other creeping stolon-producing grass, be prepared! These grasses tend to find their way into and under the synthetic turf and since temperatures on these fields reach optimal growing peaks before the surrounding turf, once they start spreading beneath they will find the drainage holes and send their shoots upward for the sun light. These plants become very hard to remove due to their sewing machine affect and in most cases will need to be treated chemically (as approved by the turf manufacturer) to kill them off. Easiest way is to prevent it from growing under from the beginning, understand it, look for it and act quickly when discovered.

WEAR AREAS NEED ATTENTION

Pay attention to heavy wear areas; these fields wear just like natural turf with the exception that you can't grow it back in once it is gone, so don't let it wear out. Football—center of the field between the hash marks; soccer—penalty kick area, corners, goal crease; field hockey—goal crease, penalty arc; lacrosse—goal crease areas, center of the field where face offs take place.

Lacrosse, whether men's or women's, has the ability to destroy a goal crease in as little as one year if not maintained. The infill material gets kicked or shuffled out, the fibers take a beating and break off quickly without the support of the infill material and before you know it, you have a big black area that is the backing of the turf that you will have to patch or replace. If you have to do this, use either the pieces you saved from installation or maybe cut out from outside the playing area so that it matches in color and type.

Even after one year it won't be a perfect match (even if left on a roof top to sun burn like the turf on the field) because the surrounding fibers in the field will have seen use and started to mat out or break down and if you are patching it must have worn out. Contact the manufacturer or a reputable service company to save you the pains of having to deal with the patch. There are special materials that you will need and the local hardware store, big or small, does not carry them. Don't use Gorilla glue, liquid nails, and styrene bonding agents, and/or drywall screws or framing nails for repairs as they are not designed for synthetic turf and may become a liability nightmare later down the road.

Painting may or may not have to be done on these fields depending on whether or not everything was inlaid during installation. If you have to paint use only paint that is approved for synthetic turf field; it seems that every year some company announces that they have synthetic turf paint, but do your homework and look at a company history and get recommendations.



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If you need to remove the paint ask the supplier: How this is done? Can it be done? What will it cost? How long will it take? Do you need special equipment and chemicals? Have their products been endorsed by any manufacturers and is your turf manufacturer one of them? If you have to paint try to do it at times other than the heat of the day, and if you are removing lines it works much better to do this at night or early in the morning when the turf is the coolest. Chemicals used during the heat of the day will evaporate long before they start to work and this will only cost you more time and materials.

Dust, dirt, pollen, body skin cells, screws, nails, track spikes, bobby pins and human hair to name a few do not break down in these fields, they remain for much of the life of the field and it is truly amazing how much exists. Special equipment with hepa-filter vacuums will be able to clear this out and remove it from within the turf. Rain, snow sleet and hosing do not help.

Static is common and can increase with humidity and sometimes age; if you need to combat this you can do so with a several household products. Liquid Tide washing machine soap and/or the use of a softener (Snuggles!) both work well when sprayed on the turf.

Eventually someone will ask if these fields need to be disinfected and my suggestion is to review Dr. Andrew McNit's research pages to obtain the best answer (<http://cropsoil.psu.edu/ssrc/sportsturf-scoop>). Information can also be found by visiting the Synthetic Turf Council's website at <http://syntheticturfcouncil.org/>.

Lastly, unlike natural turf, we can't see what is going on with these fields beneath their surface. ASTM has recommended that these fields be tested annually to determine their hardness in G force (better known as Gmax). There are those who do not believe this is necessary, but I can tell you that it is an important tool. If you don't do it for a year, two, four or six you have no history data to determine what has been going on. I have tested 2-year-old fields and 11-year-old fields with less than ¾ inch of fibers remaining and almost no infill and yet the newer one tests harder than the older. Does this mean we are no longer testing the turf and we are now testing the stone base beneath? Good question and since we don't have 11 years of historic Gmax testing, we can only imagine we are now testing the Gmax of the stone base.

Synthetic fields are a great tool and if properly maintained will provide years of play for all users. What you have just read is only the tip of the iceberg and there is much to learn about these fields. Don't be afraid to ask your peers or contactor if you don't know; it may prevent you from making a huge mistake. ■

Jim Cornelius, CSFM, manages Fisher and Son Company's Pro Services division. His commitment to educating the owners of these fields will ensure playability, safety and performance for all users, which will eventually create longevity to the ever-evolving synthetic turf industry and the fields they service.

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