



OWNER'S MANUAL

A background image of a sports turf field with a red running track. The field is green with white yard lines and a center circle. In the background, there are trees and stadium lights.

*A Guide for the Care, Use and Maintenance
of
Sports Turf fields*

“If you have the sport-we have the turf”



MAINTENANCE PROGRAMS

In order to maximize the useful life of a Sports Turf field, the owner's and Sports Turf *should* develop and implement a regular schedule of cleaning and maintenance. The goal of the maintenance program is to insure a consistent and attractive playing surface, promote player safety, and protect the turf system. Regular maintenance is more cost effective than allowing the field to deteriorate to a point that it requires major repair work. A maintenance plan will include routine and scheduled cleaning, periodic inspection and testing, repair of minor irregularities, top dressing (if necessary) and grooming for filled systems. To get the most efficient and long-term use from a Sports Turf surface, follow these guidelines:

1. Keep the field clean.
2. Provide trash containers near the field to minimize litter and debris.
3. Post signs that prohibit smoking and the use of food or drinks on the field.
4. Control access to the field and do not abuse it with vehicle traffic, heavy static loads, fireworks, etc.
5. Don't park vehicles or equipment on the field.
6. Provide good drainage around the field perimeter to minimize wet and muddy areas, and provide mats or grills at access points to prevent dirt or mud from being tracked onto the surface.
7. Sports Turf with infill should be checked periodically, materials added when necessary to maintain a consistent infill level, and groomed as needed.
8. Make periodic inspections and repair all minor defects promptly.
9. Contact Sports Turf for assistance if you have questions about your field, or if extensive repair or renovation work is needed.

FIELD INSPECTIONS

Sports Turf fields are of the highest quality materials and workmanship and, in the absence of abuse and vandalism, will provide many years of service for their designed uses with minimal maintenance. To protect your investment and maintain the best appearance and playing condition, the Sports Turf staff should have day-to-day knowledge of the usage and condition of the surface. In addition to routine awareness of field conditions, more thorough periodic inspections are recommended. For fields that are used seasonally, conduct comprehensive inspections before and after the season. Fields that are used heavily throughout the year should be checked at appropriate intervals, at least two or three times per year. A thorough inspection should include the following:

- Seams - Insure that all seams, whether in the playing field, border, field logos or other inlaid markings, are tight and secure. Loose seams can be tripping hazards and may become more serious problems if not promptly repaired.
- Edge details - Most Sports Turf fields have perimeter anchoring systems such as concrete curbs to provide neat, effective, finished edges. The edge details should be checked periodically to insure that they are in good condition, and that the turf is securely anchored.

SPORTS TURF

FIELD INSPECTIONS

- Drainage systems - Periodically check and clean perimeter drains, catch basins, and retention ponds as these can clog up and impede field drainage.
- Areas of loose turf- Check to insure that the Sports Turf surface in laid lines are adhering properly
- Infill- If the field has rubber or sand and rubber infill, check the infill depth, especially in areas of high traffic for such as midfield between the hash marks on football fields, soccer goal mouths and corner kick areas, and lacrosse or field hockey goal mouths. Add or redistribute infill, and groom as needed.

MAINTENANCE EQUIPMENT

Equipment used to maintain Sports Turf surfaces includes *Sweepers, Lawn Sweepers, and Turf Brushes (for grooming in filled turf systems)*. Each of these products is commercially available; several types of equipment have been developed for specific uses on synthetic surfaces.

Lawn Sweepers, which are pulled by a small tractor, are used to pick-up small items of debris from the field surface, clean and brush the fiber. They should be operated against the grain of the turf. Agri-fab, Inc. (Info@agri-fab.com), 809 Hamilton St., Sullivan, IL 61951, telephone 217-728-8388.

Specialized equipment used to brush, groom (in filled systems), and clean Sports turf fields must be well maintained so that there are no oil or fluid leaks onto the surface. Machinery should feature wide, soft tires (sometimes called "turf tires"), and should be operated in a slow, consistent manner, making wide turns so as not to disturb the sub-base or damage the turf fibers.

GROOMING

Periodic field grooming with approved equipment helps maintain the performance characteristics and appearance of an Sports turf field. Grooming serves a number of purposes, including preventing and/or loosening compaction with in filled systems, re-distributing and re-leveling the infill materials, and restoring the turf fibers to an upright position. Grooming too frequently may cause excessive wear to the turf surface; the Sports Turf staff will carefully track grooming practices, observe the results, and establish an appropriate grooming regimen.

SPORTS TURF

Sports Turf Stadium Surfaces provide multi-purpose use for many different activities, functions and events. However, each field is designed for a specific purpose (or purposes) and the sales contract and, or warranty, may include a list of designed uses.

Field owners are cautioned to limit usage of the field to the "approved list" or risk the possibility of voiding the warranty. If you want to consider holding events that are not listed in your contract or warranty, contact Sports Turf prior to scheduling such events.

In general, the list of approved uses for a Sports Turf field is extensive; most fields include the following (although it is always good practice to review the sales contract or warranty to make sure that an activity is approved for your field).

- * Football
- * Baseball / Softball
- * Soccer
- * Field Hockey
- * Lacrosse
- * Rugby

LOADLIMITS

Above is a partial list of uses for a Sports Turf field - if proper steps are taken most activities can be accommodated, but certain precautions are necessary. Protection of The sub-base is especially important. Over extended periods of excessive compression can cause damage.

As a general rule, Sports Turf recommends that no long term static load of more than 2 psi (300 lb. /sq. ft.), nor any transient rolling load of more than 35 psi, be applied to the Sports Turf surface. The loading of a pneumatic tired vehicle is approximately equal to the air pressure in its tires. It is good practice to restrict any long- term static loading on the field; if you must have static loads, keep the weight to a minimum and time on the surface as brief as possible. Sheets of ½ to ¾ " exterior grade plywood, or sections of 2" x 10" lumber may be placed on the field surface to spread heavy static loads and minimize the risk of damage to the turf system. When using any type of wood spreader, place a clean tarp or polyethylene sheeting on the turf surface to protect it and keep it clean. Some wood products contain preservatives that can leach out and stain the field.



INITIAL FIELD USAGE

New Sports Turf fields will not reach optimum playability standards until the fibers and rubber infill have stabilized. This may take several months; over time, field usage and rainfall will aid in settlement and compaction of the infill materials. Vehicular traffic should be kept to a minimum during this "break-in" period, and heavy equipment and loading should be kept off of the surface.

SPECIAL EVENTS

Sports Turf surfaces offer stadium owners increased opportunities for hosting special events such as concerts, rock shows, assemblies, convocations, circuses, etc. Many of these events produce significant amounts of revenue that help fund normal operations and capital improvements. Most special events fall outside the list of designed uses, but with proper preparation and care, they can be held on the field surface with little risk of damage.

The primary concerns that a stadium owner will have when special events are held on an Sports Turf field are:

- Excess weight on the surface
- Protecting the surface from oil and grease spills from vehicles
- Protecting the surface from food or soft drink spills and litter
- Burns from cigarettes, cigars, lighted matches, etc.
- Crowd management

Prior to scheduling a special event (not listed in the "Designed Uses" for your Sports Turf field), it is always good policy to contact Sports Turf to discuss the risks involved with conducting the event, and the effect that it may have on the field warranty.

As a general rule, if precautions are taken to protect the surface in such a way that the stated Load Limits are not exceeded; vehicles with oil or fluid leaks are kept off the surface; smoking, fireworks and fires of any kind are prohibited; food and beverages are limited to specific, protected areas; and the crowd is effectively managed; the risk of damage to the field should be minimal.

In the case of non-designed uses for Sports Turf surfaces the owner should be aware that any resulting damage to the turf may not be covered by the field warranties.

STAGING ON THE FIELD

The need for heavy loads on the field such as stages, sound equipment, bleachers, etc., can generally be overcome with effective load spreaders to distribute weight and protect the Sports Turf surface. The primary requirement is to keep long-term static loads below 300 psf by using plywood or other flat, rigid products to effectively spread heavy loads.

VEHICULAR TRAFFIC

Keep heavy equipment off of the field unless absolutely necessary. During set-up and tear-down for concerts, rock shows, assemblies, convocations, etc., cranes or lifting equipment should be positioned off of the field surface (if possible) to move stage equipment, sound systems, bleachers, chairs, etc., on and off the field. If vehicles must be used for this purpose,

SPORTS TURF

they should be checked for leaks of oil, grease, gas, hydraulic fluid, etc., before driving onto the turf; any vehicles that have such leaks should not be permitted on the surface until the leaks have been corrected.

All vehicles that drive on the field should be equipped with wide, soft tires that are clean so that dirt, mud and other substances are not tracked onto the surface. For heavier vehicles that transport loads of equipment onto the field, it is recommended that a temporary plywood road be placed on the surface. A clean tarp or heavy-duty polyethylene sheeting should be placed under the plywood to protect the surface from possible stains.

Vehicles used for maintenance or for moving equipment onto the field should not be parked on the surface. Move the vehicles off of the field as soon as the operation has been finished.

CHAIRS

Any chairs to be placed directly onto the field surface should be inspected to insure that the tips of the legs cannot damage the turf. Metal chair legs should be protected with rubber tips. The legs of wooden chairs should be free of any projection sharp enough to tear the turf. To insure protection of the field system and provide maximum comfort for those who use the chairs, placing them on a temporary plywood surface (or other type of rigid field cover), is the best practice.

FIELD TESTING SERVICES

Should there be concern with possible field damage resulting from a "Special Event", or should you want to schedule periodic testing to verify the condition of the field surface, you may want to have it tested by Sports Turf, or an *Independent Testing Service*. Standardized ASTM tests have been developed as guidelines to monitor the condition of synthetic fields, and several companies have the experience and capability to inspect and provide reports that summarize their condition. For information on testing services for Sports Turf fields, contact Sports Turf.

ROUTINE CLEANING

The most obvious cleaning that is needed for Sports Turf surfaces is the removal of any litter that is on the field. Encourage good housekeeping by making sure that enough containers are provided around the field for trash and debris. Check the field frequently and remove trash and debris as needed. This will include food wrappers, pompom shreds, tape, dust and dirt, and environmental debris such as leaves, pine cones and needles, pollen, bird droppings, etc. If left in place, organic material will quickly decay and serve as a medium for the growth of bacteria, algae, and fungi, especially with filled turf systems.

Field access should be routed to locations that will minimize tracking of dirt or mud onto the surface. Loose dirt and debris should be removed promptly to avoid any significant accumulation that will distract from the appearance and playing quality of the field.

It is good practice to ban chewing gum, chewing tobacco and sunflower seeds on or near the field. Removing chewing gum, though not difficult, is time consuming. Prohibit smoking on or near the field. Burned areas can be difficult to repair, and cigarette ashes and butts must be cleaned off of the field surface.

FREQUENCY OF CLEANING

SPORTS TURF

The frequency of cleaning required will vary depending on the condition of the surface, geographic location, the amount and type of use, player conduct, and the amount of alternative use for special events such as concerts, assemblies, etc. Removal of loose rubbish and debris should be done as needed, usually once or twice per month on most fields. Game fields (in stadiums, etc.) should be cleaned prior to an event to insure the best appearance and playability. Sweeping the surface with a dry vacuum should be done as needed, typically one or two times per month during periods of high use.

NOTE: Excessive use of heavy-duty power brushing equipment can damage the playing surface; use this type of equipment only when cleaning the field is essential.

FREQUENCY OF CLEANING

On filled Sports Turf systems, it is best to allow the rubber infill materials to settle throughout the fibers and compact before using vacuum cleaners on the surface. This normally takes two to three months following the first use of the field. After the initial vacuuming, check the hopper for any infill materials that may have been collected. If there is a significant amount of rubber infill, discontinue vacuuming until additional compaction has occurred. Foot traffic and rainfall will aid in the compaction of the infill materials, but keep heavy equipment off of the field during this period.

Brush Composition- The sweeper selected should have synthetic fiber brushes such as nylon or polypropylene. The minimum bristle length will depend on the type of infill, length of fibers and depth of infill, with maximum diameter of .04". The brush must not contain metal bristles that may damage the field surface during sweeping, or fall out and be potentially hazardous for those using the field.

Brush Setting (vertical height in relation to the surface) -The brush setting will depend on the type of sweeper and model. The sweeper will be most effective when the brushes are set to touch the tips of the Sports Turf fibers. The purpose of the brush action is to agitate the turf surface so that the sweeper can pick-up deeply embedded soil and grit. It is very important that the brush materials and settings be correct for use on Sports Turf surfaces. Do not put the brush so low that it digs into the turf pile or backing fabric. Setting the brushes too low may damage the turf fiber; loosen the layer of rubber infill (on filled systems).

The following list of precautions applies to all types of synthetic turf sweepers and should be carefully observed.

Turf Loading - Due to the nature of the sweeping operations, Sweepers with a gross weight of over 300 pounds should be equipped with pneumatic tires at a maximum pressure of 30 psi.

SWEEPERS

Battery Acid- Check all gasoline powered vehicles and sweepers to insure that excess

SPORTS TURF

battery fluid will not overflow onto the Sports Turf surface. Acids can seriously damage and discolor the turf (areas that have incurred damage due to acid spills may have to be removed and patched).

Sweeper Maintenance - The turf sweeper should be maintained in accordance with the manufacturer's directions and specifications. In the course of normal maintenance particular care should be taken to clean up all excess lubricating oil, fluids and grease to prevent dripping or spilling onto the Sports Turf surface during sweeping of the field.

Oil Spills - Should oil spills occur, they should be wiped up promptly with a clean, white cloth moistened with a suitable spot remover. After the spot remover has been applied, wash the area with a mild detergent followed by a generous amount of water and rinse. An oil spill that remains on the surface for an extended period may be very difficult (or impossible) to remove; contact Sport Turf for cleaning advice.

STAIN REMOVAL

The following procedures for stain and spot removal apply to both filled and unfilled Sports Turf systems. On filled systems it may be necessary to add infill and groom areas that have been spot cleaned; wait until the cleaned areas have thoroughly dried, and check the infill levels to determine if additional material is needed.

GENERAL INSTRUCTIONS - The first rule in spot removal is promptness. It is always easier to clean up a fresh spill than one that has dried and hardened. Remove any solid or residue with a spatula or paint scraper, and blot up any excess liquids with paper towels or a dry absorbent such as *Kitty Litter*. Dry absorbents can then be swept or vacuumed up.

The first groups of cleaners, which can generally be applied without special precautions, are the following:

- 1) A warm, mild solution of household detergent in water (i.e., Tide, All, or any detergent recommended for fine fabrics). Use a mixture of approximately five ounces of detergent per one gallon of water. This solution should be used to remove the following stains plus others of a similar type.

Stains Removed with Detergent Solutions

Coffee	Tea	Grape Juice
Soft Drinks (Colas, Sprite, Seven-Up, Root Beer, etc.)		
Tomato Juice	Cocoa	Water Color
Milk	Ice Cream	Catsup
Mustard	Beer	Margarine
Butter	Methylate	Food Coloring

- 2) If you are unable to completely clean the stains listed above with detergent and water, a three percent solution of household ammonia in water (as described on Page 10) is normally effective. After cleaning with the ammonia and

SPORTS TURF

water solution, thoroughly flush the surface with clean, cold water.

The second groups of cleaners, which must be applied sparingly and with care to avoid penetration below the turf surface, include the following:

- 1) Mineral spirits or a grease spot remover such as perchloroethylene (dry-cleaning fluid); in general, cleaners of this type are suitable for cleaning nylon carpets, but carefully read the instructions on the container for specific information and precautions prior to using any product. Cleaning products in this category are normally effective with the following stains:

Stains Removed with Mineral Spirits or Dry-cleaning Fluid

Asphalt Cooking Oil Motor Oil & Grease Ballpoint Ink Crayon Chewing Gum* Shoe Polish, Lipstick, Rubber Cleat Marks

*Chewing gum can be removed by using dry ice or an aerosol refrigerant spray to freeze the gum and make it brittle. Gently break up the frozen gum and remove from the turf surface; use dry-cleaning fluid to clean off any residue.

- 2) Blood, vomit, animal waste and other contaminants must be removed from the field surface with paper towels or a dry absorbent, and the area treated with a *disinfectant* or *enzymatic* cleaning agent. Mix the cleaner according to the manufacturer's instructions, and apply to the surface with a low-pressure sprayer until thoroughly wet. Allow the surface to remain wet for at least 15 minutes before rinsing thoroughly with clean water.
- 3) Mildew, fungus, or mold spots can be removed with a solution of one-percent hydrogen peroxide and water. Once discovered, mold and algae spots should be treated promptly; if allowed to become established, removing such growth can be very difficult. Thoroughly flush the area with water after application.

CAUTION: Mineral spirits and other petroleum-based solvents are flammable. Do not smoke or allow open flames near areas that are being cleaned, and be sure that the area is well-ventilated.

For more difficult stains, it may be necessary to clean with both a detergent solution and dry-cleaning fluid. For extremely difficult stains such as paint, shoe dye, adhesive, etc., consult Sports Turf.

Avoid the use of Clorox, any solution containing bleach, highly caustic detergent cleaners (with pH above 9), and highly acidic cleaners (with pH below 4), on any Sports Turf surface, as damage and discoloration to the turf and other components of the system may occur.

LINE- STRIPING

There are several line-stripping options available for Sports Turf fields; they are listed below:

SPORTS TURF

- 1) Inlaid lines, numbers, hash marks - placed in the field during the installation process; the standard color is white (although many colors are available).
- 2) Factory installed lines (primarily for yard lines on football fields)- the line stripes have a standard width of 4"; standard color is white; they are knitted or tufted into the 15' wide turf panels during the manufacturing process.
- 3) Painted line-stripping with semi-permanent or temporary paints.

Many fields have a combination of the above systems. As an example, factory installed lines are used for yard lines, goal lines, and end lines of a typical football field, and inlays used for the sidelines, numbers, team boxes, and hash marks. Line-stripping for other sports (soccer, lacrosse, field hockey, etc.) can be applied with permanent or temporary paint in contrasting colors.

INLAID STRIPING

Inlaid striping is a technique that is commonly utilized for sidelines on football field installations which have factory installed yard lines. Yard line numbers and arrows, hash marks, team boxes and other line-stripping requirements for football fields can also be inlaid. Line-stripping requirements for soccer, field hockey, lacrosse or other sports can be inlaid; however, when they are placed on football fields, alternate colors should be used to differentiate between the sports. In many cases, fields have permanent, inlaid line-stripping for the primary sport, and painted line-stripping for other sports (with either semi-permanent or temporary paints in alternate colors).

The installation of inlaid segments (numbers, hash marks, etc.) on Sports Turf fields involves using a template to lay-out the designated sections, shave-out and replacing the field segments with pre-cut white (other colors are available) turf pieces. The inlaid sections are typically hot melted in place. Inlaid lines, numbers, hash marks, etc., are permanent; they require no special maintenance, but it is good practice to periodically check the hot melted seams and promptly repair if they have become loose.

FACTORY INSTALLED LINES

These lines are tufted into 15' wide (standard width) sections of Sports Turf during the manufacturing process; lines (typically 4" wide) run the length of turf panels, and are always parallel to the edge of the panel. Primarily used for football field yard lines, goal lines and end lines, factory installed lines can also be used for cross field (side to side) striping of other sports. Factory installed lines are seamless no painting or special maintenance is required.

PAINTED STRIPING

Prior to the advent of inlaid and factory installed lines, painting was the primary method for line-stripping synthetic fields. Painting is still recommended today in many instances including the following: all striping, logos and multipurpose fields that require temporary striping. Fields that utilize permanent markings for the primary sport often use semi-permanent or temporary paint for striping other sports.

The initial field striping will be included as part of the installation contract for a new Sports Turf field. Repainting the lines, logos and numbers should be done by experienced painters with training for painting such surfaces. Synthetic field owners frequently use the services of professional striping companies to repaint their surfaces. The companies know the types of

SPORTS TURF

paint that are best suited for striping Sports Turf surfaces, and will also know the correct procedures to insure a high quality paint job.

FREQUENCY OF PAINTING

Properly applied and cured, permanent latex striping paints can be expected to last a full season, and possibly longer. However, in the cases of extremely high usage it may be necessary to touch-up or repaint a field during the season to maintain the best appearance and condition. Be sure that you do not fail to remove the existing striping paint or apply the new paint too heavily (as paint "build-up" will occur and result in increased abrasiveness of the painted areas).

PERMANENT FIELD PAINTING

Painting Procedures - Should you choose to repaint the field using your own personnel, we suggest the following guidelines:

1. Provide the paint crew with a drawing of the correct line-striping plan of the field for reference. It is imperative that the field striping be accurate.
2. Best results will be obtained when the paint is applied to clean, dry turf. It is extremely important that old, de-graded paint be cleaned off any area to be repainted so that optimum paint adhesion can be achieved.
3. The preferred method for applying the paint is spraying - this results in a more uniform application. Templates will be needed to spray paint numbers, hash marks, kick-off X's, and other special markings.
4. Don't apply the paint to very cold or hot turf the suggested temperature range is 60° to 85°F.
5. Do not apply the paint too heavily; light applications that are evenly sprayed to the tips of the turf fibers provide the best striping job - excessive amounts of paint can run down into the turf pile and result in paint "build-up" which may become abrasive and difficult to remove prior to repainting.
6. Curing time for the paint is very important; allow a minimum of three days after the striping has been completed before placing the field into service.

Pioneer Industrial (www.pioneerimg.com)- 800-877-1500

World Class Athletic Surfaces (www.worldclasspaints.com)- 800-748-9649

REMOVAL OF PERMANENT STRIPING PAINT

In most cases, latex based painted lines on outdoor fields will require repainting once each year. This is normally done during the summer months when the field has its lightest use, and weather conditions are at their best for outdoor painting. There may also be situations that require changing parts of the field striping, such as rule changes. When it becomes necessary to repaint the entire field or change part of the striping lay-out, remove the excess paint from the area to be repainted and thoroughly wash and dry the surface prior to application of new markings. Proper application of the paint is the key to effective removal. The use of excessive amounts of paint is wasteful, makes the painted areas more abrasive, and requires extra work in removal.

Paint Removal Procedures

SPORTS TURF

1. Hose down the painted surfaces with water until the surface is saturated. Mix one (1) part of aqua ammonia (33% ammonia) with three (3) parts water and spray the solution on the painted area at a uniform rate of one (1) gallon per 45 to 50 square feet.
Caution: Aqua ammonia is a strong chemical. Follow the seller's instructions for handling including eye protection, avoiding skin contact, etc. Ammonia is very corrosive to copper alloys; do not use brass nozzles or fittings. For mixing and application, use galvanized tanks and sprayers.
Scrub the wetted area with a stiff-bristled street broom until the ammonia solution turns to foam. A motion similar to sweeping a floor is sufficient. During this step, the paint will loosen and the pigment will begin to run.
2. After sufficient sweeping to loosen all paint residue has been completed, wait about ten (10) minutes to allow the foamed ammonia to work.
3. Use a high-pressure hose (do not exceed 300 psi) to blast the paint loose.
4. Hose the areas that you have sprayed with water while simultaneously picking up the water and paint residue with a wet-type vacuum. Do not allow the water solution to migrate outside the immediate area that was painted. If the water and paint residue begin to spread, immediately stop hosing the field and remove the excess water with a wet vacuum.
5. Check the removed paint areas to insure that all excess paint and residue have been cleaned from the surface. If necessary, re-brush any areas on which excess amounts of paint remain, rinse with ample amounts of clean water and pick-up promptly with a wet vacuum.
6. Before starting to repaint the field allow the turf to thoroughly dry; even a slight amount of dampness may adversely affect adherence of the new paint to the turf surface.

NOTE: When removing permanent paint from Sports Turf fields with rubber in fill, some of the in fill materials may be displaced during the paint removal process. This will require replenishment and grooming after the paint removal has been completed and the field (including the infill materials) has fully dried.

TEMPORARY FIELD PAINTING

Sports Turf fields are typically used for several sports. In most cases there is one primary sport with permanent white line-stripping (either inlaid or painted). For other sports that are played on the field, either permanent or temporary line-stripping in contrasting colors may be used. Temporary striping paints are designed for easy removal after usage for a limited number of games.

Temporary Striping Paints - Temporary paints are typically water-based acrylics that can be easily applied and removed from the surface. These paints should be diluted with water at the ratio of one gallon of paint per one gallon of water prior to use. Adding a small amount of liquid detergent (approximately 1/2 cup per gallon of the

SPORTS TURF

paint and water mixture) will aid in the removal process.

Applying Temporary Paint - In general, the application of temporary field paints is similar to that for permanent paints with a few exceptions. Normally temporary stripes are applied over field areas that are not currently striped, therefore removal of existing paint may not be necessary. Temporary paints should not, however, be applied over soiled or dirty field surfaces, so it may be necessary to vacuum such areas of the field that will receive the temporary striping. Wash heavily soiled areas with a solution of mild detergent and water. Be sure that the areas to receive the temporary paint have thoroughly dried prior to application.

Temporary line-striping should be lightly applied with paint spraying equipment; use just enough paint to achieve clearly visible stripes and markings. The appearance of temporary striping paints is deceiving when viewed from the field surface. It's best to judge the quality of the paint job as well as the thoroughness of its removal from the stands as well as up close. Be careful not to apply temporary paint too heavily; the more paint that is used, the more difficult it will be to remove. Lightly applied temporary striping paints should dry quickly; a few hours of cure time should be sufficient.

TEMPORARY FIELD PAINTING

Removal of Temporary Paint - The removal of diluted temporary striping paints can be achieved by brushing the painted lines or areas with a solution of mild detergent and water, provided that excessive amounts of paint were not used during paint application. After brushing, hose down the areas with water until the temporary paint has been eradicated, and remove the water and paint residue with a wet vacuum. Repeat this process, if necessary, until there is no evidence of water stains on the field.

DRYMARKINGS

Temporary markings with chalk dust or dry-type products used on natural grass fields are not recommended for synthetic surfaces. The lines do not normally show up well or look good from the field surface or the stands, and the dry striping materials tend to be picked up and tracked to other areas of the field. This results in the need for additional cleaning to remove the dry striping materials from the surface.

LOGOS

The addition of attractive logos can add to the appearance of a Sports Turf field, although some prefer the simpler approach of sharp, well-defined game markings with no extraneous decoration. Logos can be placed at mid-field or in the end zones of football fields, and selected locations on soccer, lacrosse and hockey fields.

Logos can be made in combinations of colored Sports Turf (typically the team colors of the primary field user), and prefabricated in a facility that specializes in such craftsmanship.

The finished logos are then inlaid into the field surface during the installation process. There is very little maintenance required with inlaid logos. Seams that divide the different colored sections should be checked periodically for any separation or looseness, and if necessary, promptly repaired.

Logos can also be painted on the surface with permanent or temporary paint. The initial cost of painted logos is much less than inlaid logos, however it will be necessary to repaint the permanent logos on an annual basis (possible "touch-up" of the logos may be necessary during

SPORTS TURF

the game season to maintain the best field appearance). Temporary logos will normally last for one or two games, and then require re-painting or removal. Painted logos can be removed from the surface and modified if design or color changes are desired. Inlaid logos are permanent; modifications will require removal and the installation of replacement logos.

Application Techniques for Painted Logos, Designs and Numbers Applying painted logos, yard line numbers and other special field markings will require templates. For extremely large logos and letters it may not be practical to use templates, in which case cardboard or wooden windshields should be used to protect the turf surface and minimize paint over spray. Provide the painters with lay-out drawings that have correct dimensions, colors and details of the logos for reference use when painting the field.

LOGOS

The procedures should be used for the application of painted logos, designs and numbers, plus the following procedures:

- The templates used should have a border that is sufficiently wide enough to insure that paint over spray does not reach the adjacent turf surfaces. Exercise care when handling the templates or other types of paint shields so that they are not placed on the surface with wet paint.
- There should be on hand and readily available a cleaning solution to clean up paint spills before they solidify.
- When painting logos, it is especially important to apply the paint lightly to the tips of the Sports Turf fibers. Do not use excess amounts of paint which will harden and may result in stiff and slippery areas that affect field safety and playability. Heavily painted areas are also much more difficult to remove when it is time to clean and repaint the logos.
 - Touch-up of logos and other special field markings can be done with a common paint roller. Remember, however, that additional paint will make the removal job more difficult.
- Do not apply double coverage of paint to logos or other field markings, i.e., in cases where letters or numbers have a narrow border in a contrasting color. Always paint the inner part of the letter or number first, then, after drying, paint the border with no overlap.

PAINT REMOVAL

Logos, designs and numbers may be painted with permanent or temporary paint. It is suggested that large logos be divided into sections not to exceed approximately 40 square feet. This makes removal much more manageable, and results in a more uniform appearance of the field after the paint has been removed. If the emblem is comprised of letters, such as a school name, remove one letter at a time. Be sure that the ammonia solution is spread uniformly, or the paint removal will be streaky. Paint will not soften unless it comes in direct contact with the ammonia solution.

WHAT ARE "MINOR REPAIRS?"

Minor repairs to Sports Turf surfaces include broken or loose seams that are no more than a few

SPORTS TURF

feet in length, small cuts or tears in the surface, and burned spots from cigarettes, cigars, etc. It's good practice to check the field warranty to determine whether or not minor repairs are covered. Very important that "minor repairs" be corrected promptly before the defective areas grow into more serious problems that will make the repair work more extensive and difficult.

MATERIALS FOR "MINOR REPAIRS"

In order to effectively make repairs that are minor in nature, it's important to notify Sports Turf as soon as such repairs become apparent. Sports Turf maintains a stock of sewing thread, seam tape, adhesives and remnants of Sports Turf grass from the original install.

SEAM REPAIRS

Repairing short areas of broken or loose seams can normally be performed by the Sports Turf staff within 24 hours. Most Sports Turf fields contain sewn seams; seam repair will require 4" curved upholstery needles and a special sewing thread that has been color matched, stabilized and is the correct strength and denier to insure that such repairs will be durable.

In many cases hot melt may be a more convenient method of seam repair.

PROCEDURES FOR SEAM REPAIR BY SEWING

Pull the thread through the turf on both sides and tie the ends of the two strands together, using a square knot. Pull the ends of the sewing thread tight so that the knot is buried under the turf fabric. With the first needle, stitch from the top (face) through the fabric on one side of the seam and then enter the back of the turf on the opposite side, bringing the needle through the turf to the face. Starting on the opposite side, repeat the process with the second needle, moving from left to right and right to left with the two needles. After every five or six stitches tie the two yarns together, using a square knot. This will prevent the sewing thread from unraveling if it is cut. Continue sewing until the loose area has been completely closed, and tie off the finished repair with a square knot. Cut off any excess thread with scissors. Brush the nylon turf fibers to cover any exposed thread in the repaired seam. Hand-held mechanical brushes have been developed for this purpose.

NOTE - ADDITIONAL PROCEDURES FOR FILLED SYSTEMS: To repair minor seam openings on Sports Turf fields with rubber infill, remove the rubber infill materials on top of the turf fabric with a vacuum cleaner before starting to make the repair. Next, open the turf edges and remove any rubber infill materials, dirt or other substances that may have accumulated between the turf backing and the sub-base. Follow the sewing procedures as above. After completing the sewing process, add rubber infill materials to the repaired area and thoroughly hand brush into the fiber of the turf until level with the adjacent areas of the field.

PROCEDURES FOR SEAM REPAIR BY HOT MELTING

If the seams were hot melted during the original field installation it may be preferable to hot melt loose seams (as opposed to sewing). Care should be taken to use only enough adhesive to effectively bond the loose turf areas to a polyester seam tape. The use of too much adhesive in a repair makes for a weaker rather than stronger bond. Be sure that the surfaces to be bonded are dry, clean, and free of old adhesive or other foreign matter. Read the

SPORTS TURF

following procedures carefully before starting to hot melt loose seam areas.

1. Lift the loose edges of turf and remove any dirt, old adhesive or other foreign substance from the area to be hot melted (back of turf and seam tape). Use a putty knife or stiff brush to scrape off any old, degraded adhesive on the seam tape or turf backing.
2. Check the condition of the existing seam tape; if it has been torn or damaged, replace it with new seam tape (6" wide). Remove the old tape and hot melt.

CIGARETTE AND CIGAR BURNS

It is best to prohibit the use of cigarettes and cigars on Sports Turf surfaces.

Lighted cigarettes, matches or cigars that are dropped onto the field will not ignite the polypropylene fiber, but it may be scorched and discolored (normally black) and the tips fused together. To separate the turf fibers and clean discolored areas, vigorously brush the surface with a wire brush. If this is not effective, it may be necessary to remove and replace the burned areas.

The performance and longevity of a Sports Turf field will be substantially enhanced by periodic cleaning, proper maintenance, and promptly completing minor repairs before they become more serious

ANTIMICROBIAL PROTECTION

Microbial contamination can cause a variety of issues for synthetic turf systems including stains, odors, functionality and health concerns. Sports Turf has its own product ST- Clean which can be applied to the Sports turf in its entirety or individual areas.

SUBBASE DIVOTS OR DEPRESSIONS

Should divots or depressions (that affect field playability) occur in the sub-base, they can be corrected by carefully removing a section of turf over the depressed areas and adding to or redistributing and leveling the sub-base materials. Such incidents are more likely to occur on fields with crushed stone rather than asphalt or concrete sub-bases. Sports Turf staff will have the necessary skills to make the repairs. Do not attempt to correct divots or depressions in the field by simply adding additional infill materials to the surface as this could create *soft spots* and become safety hazards.

SNOW AND ICE MANAGEMENT

Snow and ice are not harmful to Sports Turf and, when circumstances permit, let the snow and ice melt normally and run through the surface. When snow removal is necessary; Sports Turf has snow removal equipment specially designed to not impact the Sports Turf or the sub base work.

When service is needed for maintenance or repair of Sports Turf fields, or you have questions regarding the field warranty, contact:

Eric Lenardson
Sports Turf
10 State Rd suite 211
Bath, Maine 0430
207-450-4244

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207-450-4244

SPORTS TURF

SYNTHETIC TURF MAINTENANCE PROGRAM

Our maintenance service program is specific for every stadium, field and facility. Sports Turf will perform a site evaluation with your organization, discuss any concerns and questions and outline the best maintenance approach for you. We have the information and solutions to maintain your synthetic field from cleaning of debris to turf repairs. Our main concerns are:

-  **Safety** (stability and footing)
-  **Playability** (consistency and confidence)
-  **Aesthetics**

Sports Turf possesses the knowledge and experience to maintain your facility with ease. Your facility is a large investment and should be taken care of by professionals. Brushing of the field, removal of foreign debris, static control and disinfectants are a big part of its maintenance. We can provide repairs of seams, inlaid markings/letters, rolling of the field, drainage solutions and field replacements. Sports Turf is a full service company with its own field technicians and staff. All equipment and techniques used are unique to Sports Turf.

Sports Turf maintenance programs include:

Brushing of the field

1. Motorized rotary brush
2. Nylon brush
3. Lifting of the fibers
4. Field examination/maintenance of proper levels of sand and rubber

Removal of foreign debris

1. Leaves, sticks and gum
2. Metal fragments with a modified field magnet

Fabric softener spray (diluted)

1. Static control
2. Remove old tire smell/locker room smell

Disinfectant application to field

1. Sanitization and cleansing
2. Biological control (spit, blood, and other body fluids)

Snow removal

1. A separate contract to allow all-season field usage.



SPORTS TURF

“When you can’t depend on the weather depend on the Turf”

Eric Lenardson, owner



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