



MAINTENANCE MANUAL



At TenCate, we believe in home field advantage. Our maintenance manual is designed to help ensure your field remains as impressive today as the day it was installed. Because a great athlete deserves a great surface.

INTRODUCTION

The Tencate synthetic sports system consists of specifically manufactured artificial turf and can include specified levels of infill sand and/or rubber granules. The combination of high quality turf and infill with the correct installation procedure will provide a safe, comfortable and durable playing facility. A properly maintained field will perform similar to, or better than, that of a natural grass surface. Tencate's main goal within this manual is to ensure the field is always at its optimum playing condition by providing you with the correct information and training.

Tencate strives to provide the highest performance of our turf system from initial construction through weekly use and far into the future years. It is therefore essential that Tencate provides detailed instructions for the use and maintenance of the system to guarantee our product's performance.

Contact your Tencate representative if you would like information or a consultation on a continued maintenance and service plan through Tencate or one of our strategic partners.

CONTENTS

1 - Introduction	1
2 - Contents	1
3 - Definitions	1
4 - Ensuring optimal field performance	2
5 - Guideline for users and spectators	4
6 - Maintenance Guideline	5
6.1 Daily maintenance	
6.2 Weekly maintenance	
6.3 Monthly maintenance	
6.4 Annual maintenance	
7 - Specialty Situations and Maintenance	9
7.1 Cleaning the Drainage System	
7.2 Removal of Stains	
7.3 Animal Waste	
7.4 Chewing Gum	
7.5 Fungus or Mold	
7.6 Removal of Snow and Ice	
8 - Repairs	11
8.1 Seam and Inlay Repairs	
8.2 Painting Field Markings	
9 - Conclusion	12
Appendix	13
Maintenance Records Form	
Approved System Components	
PIVOT Maintenance Addendum	

PLEASE DISTRIBUTE THIS MANUAL TO THE PERSONS RESPONSIBLE FOR DAY-TO-DAY MAINTENANCE OF THE FIELD AND ENSURE THAT THEY ARE THOROUGHLY FAMILIAR WITH ITS CONTENTS. GREENFIELDS RECOMMENDS REVIEWING ALL WARRANTY DOCUMENTATION PROVIDED AND FAMILIARIZE YOURSELF WITH THE SPECIFIC PROVISIONS AND LIMITATIONS CONTAINED THEREIN. **FAILURE TO MAINTAIN THESE GUIDELINES WILL VOID WARRANTY COVERAGE.**

DEFINITIONS

> POUNDS PER SQUARE INCH (PSI):

Definition: Pressure a gas or liquid exerts on the walls of its container. Also called PSIG for pounds per square inch gauge.

Note: Pressures for man and horse are for standing still. A walking human will exert more than double his standing pressure. A galloping horse will exert up to 500 psi. The ground pressure for a pneumatic tire is roughly equal to its inflation pressure.

Examples:

Human male (5 tall, medium build): 8 psi
M1 Abrams tank: 15 psi
1993 Toyota 4Runner: 25 psi
Adult horse (1250 lb): 25 psi
Passenger car: 30 psi
Wheeled ATV: 2 psi
Adult elephant: 35 psi
Mountain bicycle: 40 psi
Road racing bicycle: 90 psi
Stiletto heel: 471 psi

ENSURING OPTIMAL FIELD PERFORMANCE

> 4.1 Synthetic Turf and Infill Contaminants

Failure to follow proper cleaning guidelines will lead to contamination and compaction of the surface. Contamination and compaction of the infill material can have a negative effect on the playability of a field. Negative effects of a hardened (compacted) surface include: poor water permeability, inferior ball behavior, reduced player safety, poor grip for the players footwear and possibly damage to the fibers or fiber loss. Please consider the below parameters to best avoid infill contamination and eventual compaction.

> POSSIBLE CONTAMINANTS:

- Airborne particles from natural rainfall or water sprinkler systems
- Imported foreign bodies as a result of high winds
- Plant and flower debris from seasonal climate change
- Animal waste
- Soil or debris transported onto the field through shoes or tires.
- Ingredients in food and drinks including acids or sugars could influence the composition of the fibers or the quality of the infill
- Food packaging, drinks, or general litter
- Chewing gum can become entangled in the fiber or infill
- Natural wear and tear of the fiber creating residue
- Leakage of oil, fuel, or grease from mechanical maintenance equipment
- Neglecting the maintenance schedule could allow for the growth of weeds, algae and/or moss

> 4.2 Synthetic Turf System Damage

Damage to the system also influences the playability characteristics and the ball behavior of the Tencate artificial turf system.

Damage to the field can be caused by ANY of the following:

- Unsuitable maintenance machinery, or any equipment with inappropriate tires used on to the playing surface
- Damage caused by cigarettes or fireworks can change the specific markings/characteristics of the fiber and infill materials
- Ingredients in food or drinks including acid or sugars could influence the composition of the fibers or could influence the quality of the infill
- Application of unapproved chemicals and cleaners

Tencate recommends that warning signs are attached at each entrance to the field, an example of which is featured to the right.

To Ensure GreenFields Performance, Durability & Safety the Following is Prohibited:

-  **Metal spiked shoes**
-  **Food, Sunflower seeds & Glass**
-  **GUM** **Chewing gum**
-  **Smoking and fire**
-  **Animals**
-  **Vehicles**

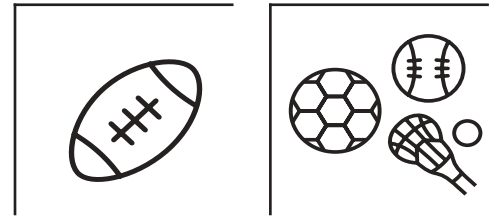
 **GreenFields**
HIGH PERFORMANCE TURF

GUIDELINES FOR USERS AND SPECTATORS

The next section will explain aspects which could affect the playability characteristics of a Tencate artificial field, but can be prevented through training and diligent maintenance. Maintenance is a requirement regardless of the level of usage. Even during infrequent use, the maintenance is required in accordance with this manual.

> 5.1 Normal Athletics

As the owner/manager you are responsible for the general maintenance and up-keep of your field. With the primary goal to maintain optimum playing condition, discipline being the key word. By maintaining the following 'rules' you can contribute in preventing the possible damaging effects previously mentioned.



- **Avoid unnecessary vehicle traffic**
- **Prohibit use of any open flame**
- **Fireworks are prohibited and will cause damage to fibers and infill**
- The field should be only be used for the specific use for which it was designed
- Do not allow the use of inappropriate footwear
- Properly dispose of general waste away from field surface
- Direct traffic routes across the field in such a way as to minimize pollutants being transported onto the field
- Prohibit eatings and drinking on the turf surface
- Use of starting pistols prohibited
- Do not allow animals/pets on to the field
- Clearly display rules of field use at each entrance to the field
- Prohibit smoking on the field
- Prohibit events that involve flames, excessive heat and fireworks

> 5.2 Field Watering

In many instances coaches and players prefer to water the field prior to use in order to lower the surface temperature. This action is recommended by Tencate in periods of very hot weather as a wet field provides evaporation which lowers the temperature of the playing surface. Ideally the temperature of a wet synthetic field should be equal to that of a natural grass field.

Users should remember that evaporation can be very rapid, typically it can be more than 2200 gallons of water per hour on an average size field. Therefore, with sustained periods of use additional watering of the field may be required. If you decide to water the field, distribute the water evenly over the playing area, the aim being to dampen the surface not soak or saturate it. The water used should be free of pollutants so as not to potentially damage the quality of the field and infill products.

> **THE IDEAL TIME TO WATER THE FIELD IS 1-2 HOURS PRIOR TO THE START OF THE PLAYING PERIOD.**

> 5.3 Special Events

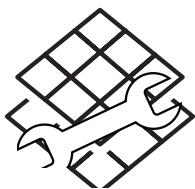
Tencate synthetic surfaces are designed to be multi-purpose, and as such, often become host to numerous non-athletic events such as; assemblies, exhibitions, and concerts. Generally, there are two areas of concern that need to be recognized - weight and ground pressure. Overall weight must be considered when introducing loads to the field surface. As a general rule, avoid storing/positioning any load over 500 lbs. on the field surface. More importantly, ground pressure should be the driving factor when deciding whether or not to introduce a load to the field surface. Driving vehicles onto any Tencate system utilizing road tires will result in damage to the subbase and/or the turf system. Consider the following operational parameters when planning special events.

> 5.3 Special Events (Cont.)

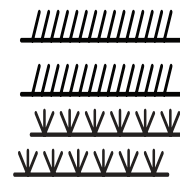
- Special events can introduce heavy static loads on the field that exceed the surface load limit set forth in the Warranty and in the load limits outlined in this Manual
- Large crowds or personnel on the field generally fall outside the “designated uses” for the system and damage of the system can occur unless it is fully protected
- In the case of all non-designated uses of the system, you should be aware that damage to the field is not covered by the GreenFields warranty.
- **No static, transient, or dynamic load of more than 15 Psi should be allowed on the field. (See the definitions section for typical PSI ranges). It is therefore good practice to eliminate any unnecessary long-term parking and loading and to keep necessary traffic on the field as minimal as possible. Sheets of ¾” thick plywood typically 4'x 8' in size, exterior grade, are ideal and recommended to assist spreading the loads. It is also recommended to cover the field with white plastic sheeting prior to placing the plywood to keep the field clean, some kinds of plywood contain pollutants that can discolor the field surface, if in doubt please seek advice from your local Tencate office.**
- Ensure the field undergoes a full grooming/brushing maintenance program following the event to return it to its original playing condition

MAINTENANCE GUIDELINES

A strict maintenance schedule is essential in providing longevity to your sports field and also ensuring compliance under the Tencate warranty terms and conditions. Additionally, accurate records of all maintenance are required under the warranty and are used to evaluate any potential claims. Utilize the maintenance record form in the appendix of this guide to record maintenance OF ANY TYPE on the field. The maintenance schedule of Tencate artificial sports fields has been divided into the four following sections:



- 6.1 DAILY Maintenance**
- 6.2 WEEKLY Maintenance**
- 6.3 MONTHLY Maintenance**
- 6.4 ANNUAL Maintenance**



> 6.1 Daily Maintenance

Daily maintenance is focused on the safety and security of the users. Begin with a visual inspection of the field, looking for any damage or trip hazards that may have developed through normal use. Walk the field using a consistent pattern to ensure the entire field is viewed. Additionally, the following should be monitored for safety and functionality:

- Goals and nets: Visually inspect all nets and goal posts for damage, repair as required, pay particular attention that no sharp edges are protruding from the goal post structures. Monitor for rust or other degradation of the goal posts.
- Net holders: Stretch the nets using the net tension ties before play begins. Take care that after the game the tension is released from the nets.
- Corner flags: Visually inspect the corner posts for breaks or damaged anchor points. Repair prior to continued use of the field product.
- Artificial turf: Report any damage discovered during the visual inspection as it may be required to suspend play depending on the severity of the issue.

Maintenance, and SUBsequent record keeping, are a requirement regardless of level of usage.

failure to maintain the field PRODUCT in accordance with this manual will lead to premature wear and tear and void warranty coverage.

> 6.2 Weekly Maintenance

Weekly maintenance focuses on two major aspects of the field; the condition/direction of the fibers and, in particular, the infill distribution. There are three phases of weekly maintenance - inspection, surface cleaning, and infill re-leveling (High Traffic Areas). In order to accomplish these phases, Tencate recommends the following tools:

- Probe for measuring infill levels
- A wheelbarrow to transport infill material
- A flat, large shovel to replace and spread the infill material
- A stiff bristle floor broom to manually brush the fiber/infill
- A metal rake to remove leaves, foliage and return the fibers to their vertical position
- Leaf blower for removal of debris
- 2-stroke fuel for leaf blower
- Infill material

> Inspection

Includes walking the field for any damage to seams/inlays, measuring infill levels (using an infill probe), and monitoring the health of the base for depressions and/or drainage issues. Use an infill probe to measure infill levels in high traffic areas. Tencate recommends .5" fiber reveal (1.5" of infill height on a 2" product).

> Surface Cleaning

Using a rake or leaf blower, remove all debris from the field. A clean field surface will prevent natural growth (on the perimeter) and contamination of the infill. Avoid directing the blower directly at the field to prevent removal of infill.

> Re-Level Infill (High Traffic Areas)

Infill distribution and level are of critical importance when maintaining a field. Inspect high traffic areas paying close attention to the infill level and distribution. All areas with low infill should be dressed and areas with high infill brushed to be level with surrounding areas. Be aware that high traffic areas of the field will require particular attention. These areas tend to occupy small square footages and it is advisable to check them by hand. To accomplish re-leveling the following actions should be adopted:

- Using of a gardening rake or stiff bristle sweeping brush, scrape/brush the area until the fiber returns to its vertical position
- If new infill material is required, use a shovel to spread the new infill over the required area
- Work the infill into the required area, this can be done by hand or gently by the use of a stiff bristle sweeping brush/rake
- Use a rake in a popping motion to adjust fibers. Pay attention to areas where field panels and inlays meet. Work the fiber/infill until gaps in the inlays are no longer visible
- Finishing can be accomplished by using a stiff bristle broom to level the infill with the surrounding area
- Ensure no "dark", or high, spots exist in the area creating a constant color hue in the area

> 6.3 Monthly Maintenance

Monthly maintenance consists of 3 actions: inspection of seams and inlays, grooming/brushing, and removal of weeds/natural growth. Inspection of seams and inlays occurs exactly as it would for weekly maintenance. Walk the field paying attention to any damage or disturbed areas. Simultaneously monitor Infill levels as well as the quality of connection between inlays and the field. All inlays coming up will require immediate repair to prevent further damage and maintain a safe playing surface. See the repairs section for instructions on repairing inlays.

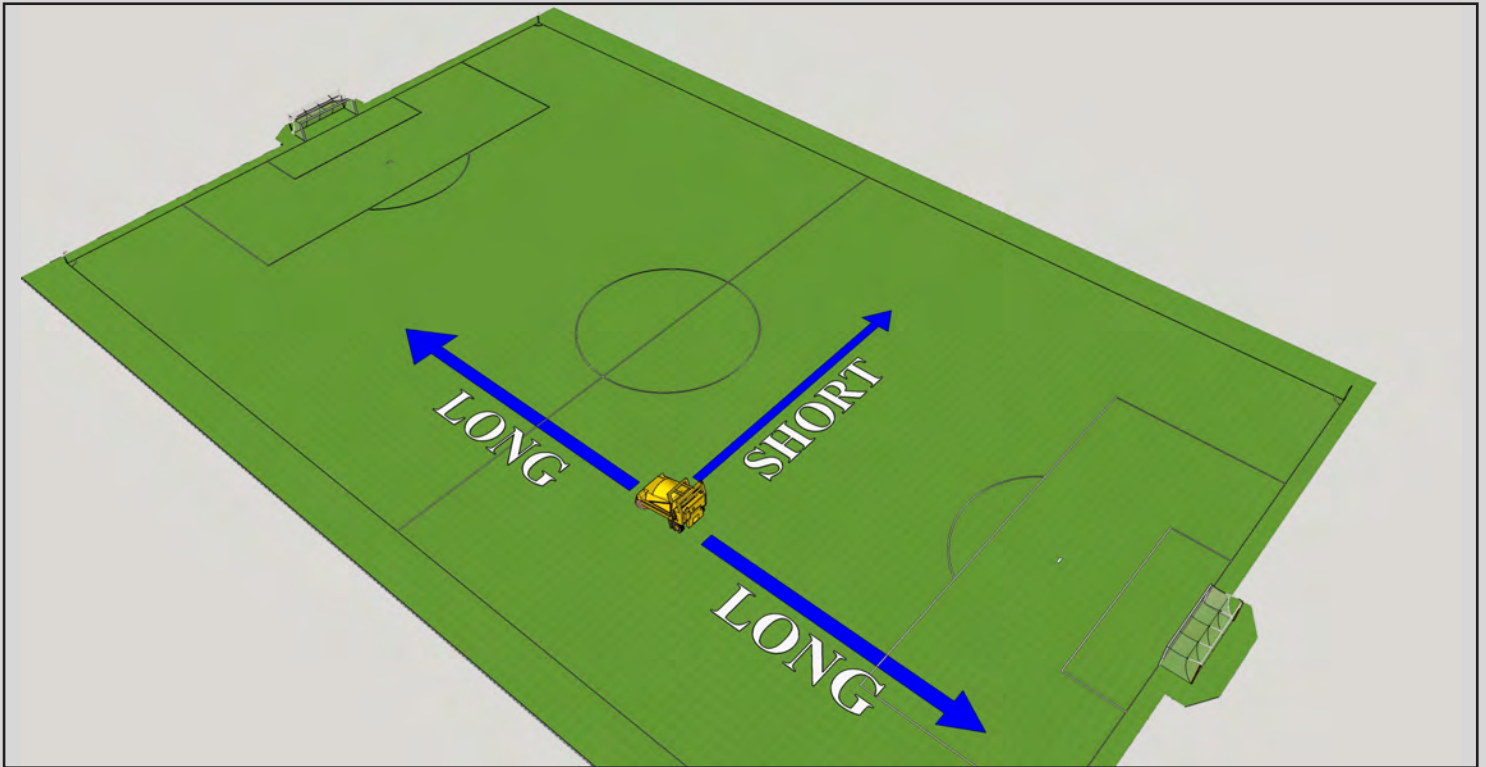
For monthly maintenance, the following machines are recommended:

- A light lawn tractor or **UTV** on load spreading low tread profile tires
- A groomer with **medium poly brushes** as recommended by GreenFields
- A sweeper as recommended by Tencate (monthly)
- A piece of artificial grass 6ft x 6ft in size with a draw-beam
- A powered leaf blower or drag mat

> Grooming/Brushing

Every 4-6 weeks the field requires both sweeping and grooming using a UTV or light lawn tractor with the appropriate attachment. Sweeping is accomplished first to remove debris and contaminants from the field. Grooming, more importantly, occurs second and allows for more consistent infill distribution and prevents compaction across the field. It is important that the field is groomed in varying directions to return the fibers to a vertical position, thus providing a natural grass look. Greenfields recommends grooming the field **twice per session, in opposite directions**. Furthermore, the brush **pattern** should be alternated between brushing sessions.

For example, in the first month the field should be brushed twice going "short", or sideline to sideline. One treatment is accomplished while driving clockwise around the field while the second occurs driving counter-clockwise. Four weeks later, the field will be brushed twice using a "long" pattern, or end line to endline. See below for an example of long versus short brushing.



During the brushing phase particular attention should be paid to the following:

- Always accelerate and decelerate the grooming vehicle gradually
- Speed of the vehicle should never exceed of 9 mph. **Recommended speed is 6 mph.**
- Always turn the tractor in wide loops
- Ensure that the speed is reduced during **GENTLE** turning.
- Where possible avoid turning on the seams (yard lines, hash marks, numbers, inlaid lines)
- Ensure the drag brush is flat and level to avoid uneven brushing or even potential damage to the surface
- If it is found that the infill has not been revitalized you may consider placing small weights, typically two 50lbs weights maximum on the brush to increase penetration
- Refueling of the machinery should always be carried out a safe distance from the field (gasoline, diesel fuel, motor oil will instantly damage the field)
- Always reduce the speed slowly and avoid heavy braking.
- Avoid operating near perimeter surface drains. Do not allow infill to migrate into drains.
- **DO NOT TRAVEL IN 4-WHEEL DRIVE MODE**



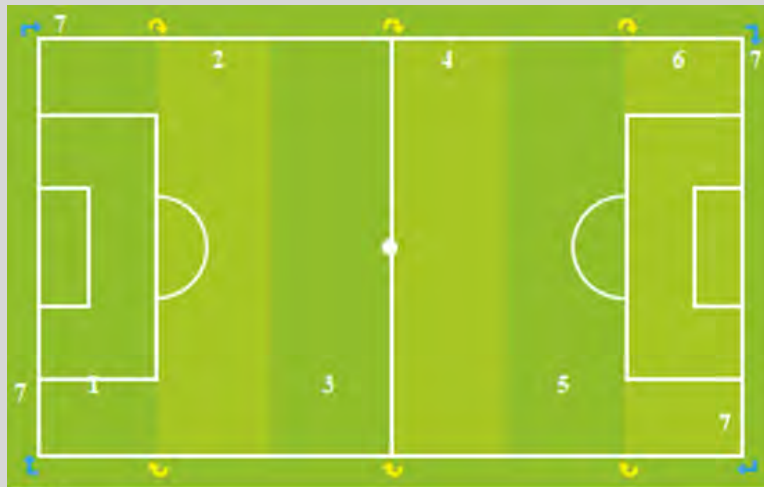
> 6.3 Monthly Maintenance (Cont.)

> Grooming/Brushing (Cont.)

The following instructions describe the recommended driving program for both grooming and sweeping. The below sweeping pattern may be used both "long" and "short". When performing the "long" pattern, merely adjust lanes to run parallel to the sidelines.

Brushing and Sweeping Program:

- Divide the field between the goal lines into 6 sections
- Brush one lane in section 1 from sideline to sideline ensuring a straight line is maintained
- Turn slowly in a wide loop outside the sideline where possible and drive to section 2 (yellow arrow)
- Clean brush after each lane
- Brush one lane in section 2 until you reach the side-line
- Turn slowly outside in a wide loop the sideline where possible and drive to section 1 again (yellow arrow)
- Repeat until whole of sections 1 and 2 have been brushed
- When sections 1 and 2 have been completed, move on to sections 3 and 4 and repeat the same process
- When sections 3 and 4 have been completed, move on to sections 5 and 6 and repeat the same process
- When sections 1 to 6 have been completed, complete the process by brushing the length of the side and goal lines (section 7, blue arrows)



For reference, a full-size field should take approximately 2-3 hours to groom.

Infill material can appear higher in level if the field is dry due to static within the infill and ambient heat. This does not affect the playability of the field. However, to reduce visual impact on the field, it is advised to brush the field further with a spare piece of synthetic grass turned upside down with a light weight on top of it and towed behind the tractor to remove static. If a Laymor is available, it is also possible to apply a water and fabric softener solution (Downey) via the use of the machine's spray jet system.

> Removal of Weeds, Algae, and Moss

If weeds, algae or moss are detected they must be removed immediately to prevent the spreading of seeds and or the creation of streaks. Therefore, Tencate recommends the following procedures:

- By hand: The recommended procedure for the removal of weeds is by **hand**, this ensures complete and careful removal of the weed and roots. Knives and sharp objects should not to be used to avoid puncturing or damage to the field.
- By chemical: Tencate does **NOT** recommend the use of chemicals. Please contact your Tencate representative if recurring growth occurs on a field. Chemical applications to the field are to be performed **ONLY** by Tencate certified installation and maintenance teams.

Once the weed, algae or moss has been killed ensure that the debris is removed by hand carefully ensuring that none is left behind to regrow.

> Inspection of Seams

Your field is constructed from rolls of manufactured synthetic grass, these rolls, typically 15 feet in width are sewn or glued together. While the seams cannot be seen without removing the infill they require checking monthly. Look for separation and lifting. Special attention should be paid to yarn line markings as these are usually the location for the seams during construction. Any damage found to the seams should be reported to your local maintenance contractor immediately for repair.

> 6.4 Annual Maintenance

Despite the fact that weekly and monthly maintenance will remove most pollutants it is also recognized by Tencate that there may be a requirement to engage a specialized contractor to provide specific services outside normal maintenance procedures. Some pollutants may remain in the grass and infill material after routine maintenance and a specialized contractor will have the required machinery to clean the field safely.

Such machines are designed to remove, sieve, clean and re-install the infill thus removing such damaging pollutants. Tencate recommends annual professional maintenance be completed by a Tencate certified installer. Treatments can include, but are not limited to: decompaction, top dressing, base repair, decontamination. Please contact your Tencate representative to learn more about annual maintenance solutions.

SPECIALTY SITUATIONS AND MAINTENANCE

> 7.1 Cleaning the Drainage System

All synthetic fields require some form of drainage system. It is essential that the drainage systems are maintained. A system that contains drainage pipes running underground may collect residue that will require flushing. If access to these pipe ends is available, Tencate recommends that a pressure washer be used to clear residual dirt and refuse. Some fields feature a surface drain running around the circumference of the field. This type of design may collect residue and infill from the field. These drains should be cleaned by hand or by the use of a pressure washer. If in doubt, please contact your Tencate representative.

> 7.2 Removal of Stains

No food or drink should be permitted on to the field. However, Tencate products are constructed using polyethylene fibers which are extremely resistant to absorbing stains as they do not absorb moisture. It is therefore relatively easy to remove stains as they will not be absorbed into the fiber. Staining should be dealt with as soon as possible and before the offending contaminant has chance to dry or harden. Most stains listed below can be removed by the use of hot water mixed with dish washing detergent as required. If scrubbing is required for stubborn stains the use of paper towels, a sponge or soft plastic scrubbing brush is recommended to avoid damage to the fiber. The area should be thoroughly rinsed with clean water to wash away any detergents used. Please seek advice from your local Tencate office if a stain is not removable with soap and water.

> Persistent or Oil Based Stains

If any of the products listed below are spilled on the field seek immediate assistance from your local Tencate office.

- Crayons, furniture stain, lipstick, metal polish, cooking oil, rubber cleat marks, shoe polish, tanning oil, ink
- Oil paints (Do not use for field markings)
- Nail Polish
- Paraffin Wax
- Tar or Asphalt
- Gasoline, Diesel fuel, Motor oil, Alkaline (Caus-
tic) cleaners

> Typical Water Borne Stains

- Acid
- Alcohol/Beer
- Alkali
- Blood
- Chocolate
- Coffee
- Cola
- Dye
- Food Coloring
- Fruit Juice
- Paint
- Mustard
- Tea
- Ketchup
- Urine
- Milk

> 7.3 Animal Waste

Animals should not be allowed on the field surface, to include pets. Obviously, not all wildlife can be prevented from access to the surface (birds, deer, other migrant animals) and as such it is inevitable that animal waste will need to be removed. First, remove the solid element(s), then wash that area with a mixture of water and dish-washing detergent. If the waste is liquid only simply wash the area immediately with dish-washing detergent/water and rinse with clean water afterwards. For more serious waste contaminations, Tencate recommends the use of Turf Fresh antibacterial treatment for the field - available at Synthetic Grass Warehouse. Turf Fresh is applied in the same fashion as the water/soap mixture used for cleaning. Tencate recommends following the mixture instructions on the rear of the Turf Fresh container.

> 7.4 Chewing Gum

Chewing gum is prohibited on Tencate turf products. If gum does contaminate the turf, gently rub the area with ice until the chewing gum is frozen. Then, scrape the frozen gum with a plastic scrapper to remove. If this technique is unsuccessful, a mixture of dish soap and water can be attempted. As a last resort, mineral spirits may be used to attempt removal. This technique should be the final approach to cleanup and must be performed carefully. Contact your Tencate representative for detailed instructions.

> 7.5 Fungus or Mold

Generally fungus and mold do not develop on the surface of the turf product although it is possible for conditions to develop that promote growth below the surface of synthetic surfaces. Dirt and soil contamination, along with a constant presence of water can create a suitable condition for mold growth. This can indicate a more serious drainage issue with the subgrade or area surrounding the field product and should not be taken lightly. If you suspect mold or fungus growth, contact your Greenfields representative immediately. While further issues are being investigated, Tencate recommends the following procedures:

- Use a **ONE** percent solution of hydrogen peroxide in water.
- Gently wipe on to the affected area and flush thoroughly with water following application
- **DO NOT** use a high-pressure washer, or steam cleaner as this can severely damage the field
- If in doubt please contact your local GreenFields office for assistance

> 7.6 Removal of Snow and Ice

Tencate does not recommend snow removal or plowing unless performed by a trained professional. If use of the field is absolutely necessary, plowing may continue **EXTREMELY CAREFULLY**. Do not use common salt, rock salt, calcium, chloride, ammonium nitrate or other corrosive or toxic chemicals to melt snow and ice on Tencate surfaces. Their presence can be harmful to players, mechanical equipment and possibly damage the field itself.

Tencate expressly prohibits the use of metal street plows and any form of road going vehicle. Lightweight tractors using specially configured buckets are the **ONLY** approved, mechanized, equipment for Tencate athletic products. Lugs, chains, and studs are damaging to the synthetic surface and should not be used. Do not park equipment on the field overnight or for extended periods of time. Please contact your Tencate representative for information on professional plowing services.

Tencate prohibits the removal of ice as remnants can be dangerous to players and the general public. Further, improper removal can result in damage to fibers and/or primary backing of the product. It is not advised to use a tarpaulin cover on the field during freezing weather, as covers can freeze to the surface through condensation and thus damage the fibers during removal.

WHEN IN DOUBT, CONTACT YOUR TENCATE REPRESENTATIVE

It is recommended that the field is inspected closely prior to the start of any sports season for any damage that may require repair. Additionally, Tencate stresses the importance of diligent inspection during daily and weekly maintenance. Ensure any findings are reported to Tencate, whether repaired by ownership staff or a Tencate certified installer. If Tencate assistance is necessary to carry out repairs, try to allow for as much notification time as possible as mobilization may not be immediately available. As gluing of the seams and the installation of infill is difficult in wet conditions, professional repair visits will be weather permitting and dependent on warranty conditions. We strongly advise that damaged areas of the field be immediately corrected no matter how small to avoid further damage. Owners should be aware that small seam repairs or cuts to the field are to be expected during the life of the field, such failures less than 1 foot in length could be repaired by the owner to reduce financial costs, advice for such repairs are provided below.

> 8.1 Seam and Inlay Repairs

Damaged seams must be repaired immediately to prevent tripping hazards and further damage to the turf system. Seam repairs 1' in length and below are easily repaired by ownership staff, as are minor inlay repairs. A minor inlay repair is characterized by a 1' (or less) inlay coming up from the corners and NO damage to the turf itself. Please contact Tencate regarding more serious repairs (wherein size is greater than 1' or damage is present on the turf). To repair minor seam and inlay failures, Tencate recommended the following procedures:

- Remove/vacuum **ALL** the infill from the affected area
- Ensure the area to be repaired is free from loose rubber, dirt, old adhesive and any other foreign material, and is thoroughly dry
- Cut any excess glue from the turf which may interfere with the turf and its ability to sit flat
- Remove the old seaming tape from underneath the carpet seam and replace with new tape
- Apply a bead of glue (roughly 1/4" wide) to each side of the seam, roughly 3/8" in from the edge. Add additional glue underneath each panel to promote a consistent bond
- Press the carpet into the adhesive evenly and ensure a smooth joint is achieved
- Weigh down the repaired area and allow it to cure for at least 24 hours (bricks or cinder blocks are best). Be certain the glue is not being pressed up and into the fibers
- Spread the sand/rubber infill on the repaired area and hand brush into the turf thoroughly until it is even with surrounding playing area
- Seam repairs should be undertaken in dry warm conditions where practically possible



> 8.2 Painting Field Markings

Most synthetic fields require line markings. Some fields have lines inlaid at the time of installation, while some owners choose to paint temporary lines for removal and reapplication at a later date. Please contact Tencate for approved paint products and removers. If painted lines are desired, Tencate recommends the following procedures:

- Only apply paint when the field or fibers are totally dry and clean from pollutants. Avoid overspray to promote ease of removal
- The recommended temperature for best results is 60 F to 90 F
- Only use recommended specifically designed paint
- Remove all old lines and markings if possible AFTER seeking advice from your local Tencate office
- Artificial turf fibers will not absorb paint – use a paint designed for artificial turf fields
- Paint should be applied per the manufacturer recommendations.
- Do not use paint thinner or turpentine for removal of paint lines
- Paint should be allowed to cure properly before opening the field for use. Consult the paint manufacturer for cure times

CONCLUSION







With the many advances of synthetic turf plus the innovations and developments of the past years, Tencate products require a less intensive maintenance program than ever before. However, your Tencate product will perform, look and feel better for a longer period of time if the maintenance schedule outlined in this manual is adhered to. Tencate products rely, in part, on the infill system which has influence on the life and playability of the field. It is therefore critical to maintain a sufficient level of infill material that is uniformly distributed throughout the field. Special attention must be paid to high usage areas such as mid fields, goal lines and mouths, corner spots and penalty spots. You should periodically inspect these areas for infill displacement and infill thickness and carry out the required action if found to be below standard. **Ensure records of maintenance are maintained throughout the warranty period** as claims will be evaluated using these records. Failure to maintain the field and records of operation WILL VOID WARRANTY COVERAGE. This manual is designed to provide guidance for correct use and maintenance of your product. If you have any further questions please feel free to contact your local Tencate office.

> Prohibited On Greenfields Products

- Storage of materials on the field
- Vehicular traffic other than lawn tractors and ATV's
- Unauthorized sports such as golf, shot putt, javelin or discus throwing or similar
- Use of inappropriate footwear (metal cleats of ANY type)
- Open flame, fireworks, welding, etc.
- Use of wire brushes
- Any load in excess of **25 PSI**
- The use of any unauthorized cleaning equipment, methods or materials
- High pressure washers or water sprayers
- Vehicles with non-pneumatic tires
- Introduction of sand or infill's that vary from GreenFields specifications
- **Application of cleaners or chemicals that cause a chemical reaction with the turf product**

> Key Points

- Control access to the field
- Keep the field clean and sweep the field as recommended within this manual
- Provide sufficient litter bins on site for public use
- Keep vehicular traffic off of the field
- Prohibit **SMOKING** on or around the field perimeter
- **MAINTAIN PROPER PILE REVEAL AND INFILL LEVEL (.5" ON INFILLED PRODUCTS)**
- **MAINTAIN ACCURATE MAINTENANCE RECORDS THROUGHOUT THE LIFE OF THE FIELD**
- Maintain the field as described at all times, even if the field is not used regularly
- **IF IN DOUBT SEEK ADVICE FROM YOUR LOCAL TENCATE OFFICE**
- Use plywood and fabrics to protect the field if special events are scheduled
- Carry out minor repairs as soon as possible, report major repairs or concerns to your local Tencate office

	<h2 style="margin:0;">Maintenance Report</h2>					
Weather Condition						Temp: _____

Project Name:	Address:
Date of Maintenance:	
Maintenance performed by:	

Fiber Length:				
Field Refuse		Status		Removed
	Organic:			
	- Weed	none/ little/ a lot		yes/ no
	- Foliage	none/ little/ a lot		yes/ no
	- Algae	none/ little/ a lot		yes/ no
	- Moss	none/ little/ a lot		yes/ no
	Non Organic:			
	- Litter	none/ little/ a lot		yes/ no
	- Glass	none/ little/ a lot		yes/ no

Playing area				
General field condition	good/ reasonable/ bad			
Measurement*	Fiber length	Infill Height		
		Sand	Rubber	
Penalty spot				
Center circle				
Corner spots				
Goal areas				

*make several measurements and note down the average

Loose seams	yes/ no	repaired	yes/ no	
Straight lines	yes/ no	repaired	yes/ no	
Loose penalty spot(s)	yes/ no	repaired	yes/ no	
Damage (e.g. burn spots, tears, stains)	yes/no	repaired	yes/ no	

*if yes, describe damage

Maintenance carried out				
Brushed	yes/ no			
De-compaction	yes/ no			
Wet Drag	yes/ no			
Surface cleaning(Sportchamp)	yes/ no			
Weed removal	yes/ no			



Maintenance Report

--	--	--	--	--	--	--	--	--

Infill	Field		Surrounds		Center Circle		High Traffic Areas	
	OK	NOK	OK	NOK	OK	NOK	OK	NOK

			Notes/ advice					
--	--	--	---------------	--	--	--	--	--

Edge Secure	OK	NOK						
-------------	----	-----	--	--	--	--	--	--

Nailer boards	OK	NOK						
---------------	----	-----	--	--	--	--	--	--

Planarity	OK	NOK						
-----------	----	-----	--	--	--	--	--	--

Seams	OK	NOK						
-------	----	-----	--	--	--	--	--	--

Lines	OK	NOK						
-------	----	-----	--	--	--	--	--	--

Fencing	OK	NOK						
---------	----	-----	--	--	--	--	--	--

Goals	OK	NOK						
-------	----	-----	--	--	--	--	--	--

Moss	Yes	No						
------	-----	----	--	--	--	--	--	--

Weeds	Yes	No						
-------	-----	----	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

General Condition	OK	NOK						
-------------------	----	-----	--	--	--	--	--	--

			Yes/ No	Notes/ advice				
--	--	--	---------	---------------	--	--	--	--

Minor Maintenance								
-------------------	--	--	--	--	--	--	--	--

Major Maintenance								
-------------------	--	--	--	--	--	--	--	--

Sweeper-vacuum								
----------------	--	--	--	--	--	--	--	--

Dragged with rubber mat								
-------------------------	--	--	--	--	--	--	--	--

Spray for fungus/mold								
-----------------------	--	--	--	--	--	--	--	--

Other work carried out/ extra work/ supply/ notes/ advice								
---	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

--	--	--	--	--	--	--	--	--

Work carried out by:								
Date:								

> **Cleaners**

DISINFECTANTS:

- OxyTurf by HGP GLOBAL - UNSCENTED ONLY
- mPerial by mPact
- Benefact by ServPro

ODOR/CLEANING:

- TurFresh by TURF FRESH
- Logic by PROVET

> **Grooming Equipment**

OWNER:

- GreensGroomer by GREENSGROOMER
- LitterKat by GREENSGROOMER
- SportChamp by SMG

PROFESSIONAL:

- GreensGroomer by GREENSGROOMER
- Sweepmaster 300 by LAYMOR
- BW260 by BROCEBROOM
- 400 series Turf Tender by DAKOTA
- Mete-R-Matic series by TURFCO

> **Tape**

FIELD HOCKEY:

- 150086 Scrim by BRON TAPES

SEAMING:

- Ultrabond Seam Tape by MAPEI
- Tencate Seam Tape by TENCATE
- C130 by XGS
- C145 by XGS

> **Glue**

FIELD HOCKEY:

- 34N by NORDOT
- 34G by NORDOT

SEAMING/INLAY:

- STA1000 by ADV POLYTECH
- Sportbond DR2000053 by ISOTECH
- Ultrabond PU2k by MAPEI (recommended)
- Ultrabond PU1k by MAPEI
- 34N by NORDOT
- TurfClaw by SYNLOCK
- XGSBond by XGS

> **Pad**

PLAYGROUND:

- PowerbasePLAY by BROCK
- ProPlay 25, 35, 45, 55 by SCHMITZFOAM
- GeoFlo by TENCATE
- GeoFlo+ by TENCATE

> **Weed Control**

- Weed and Grass Killer by SPECTRACIDE
- Weed and Grass Killer by ROUNDUP

> **Infill**

ALTERNATIVE:

- Brockfill by BROCK
- TPE by GUARDIAN
- Geocool by TENCATE
- Envirofill by US Greentech
- Safeshell by US Greentech
- All Pro Cork by TTII
- Pro Max TPE by TTII
- Playsafe 65 EPDM by TTII

RUBBER:

- 10-20, 14-30 SBR by CRM (cryo or non)
- 10-20, 14-30 SBR by GENAN
- 10-20, 14-30 SBR by LIBERTY TIRE
- 10-20, 14-30 Nikegrind by NIKE
- 10-20, 14-30 SBR by RUBBERLOGIX

SAND:

- 20-50, 20-40, 30-50 Sportsfield Sand by TTII
- 20-50, 20-40, 30-50 Sportsfield Sand by US Silica
- 20-50, 20-40, 30-50 Sportsfield Sand by Whibco

> **Paint**

REMOVER:

- Blitz 2.0 by PIONEER
- Blitz Remover by PIONEER
- Mineral Spirits

SPORTS:

- Gameline by PIONEER
- Gameline GPS by PIONEER
- Stripe-X by US SPECIALTY COATINGS
- Durastripe by US SPECIALTY COATINGS

> **Pad**

SPORTS:

- GeoFlo by TENCATE
- GeoFlo+ by TENCATE
- Ecocept by TENCATE
- ArmaSport by ARMACELL
- Powerbase YSR by BROCK
- Powerbase by BROCK
- SP series by BROCK
- Shockdrain 580, 780 by ENPLAST
- ProPlay Sport 23 by SCHMITZFOAM
- ProPlay Sport 23D by SCHMITZFOAM
- ProPlay Sport 20 by SCHMITZFOAM
- ProPlay Sport 20D by SCHMITZFOAM
- ProPlay HP40li by SCHMITZFOAM
- ProPlay HP23el by SCHMITZFOAM
- Progame by TROCELLEN
- Progame Elayer by TROCELLEN

Ensure **ONLY** components listed above are utilized with Tencate turf products. Any deviation from this list or use of an unapproved product will void the warranty. To apply for product approval, send samples to Tencate manufacturing for system testing and addition to this list. An ISO version of this list is available upon request.

PIVOT MAINTENANCE

PIVOT is a non-infill product and requires significantly different maintenance protocols to ensure top level performance and durability. Comprised of 3 different fibers, the product is designed to mat down to improve performance. The matting process requires normal use and time (depending on use levels) to achieve the top performance state. Assuming daily use, matting should require 12 to 16 months and will be visually shorter in pile height once achieved. As such, grooming using drag brush or Vertitop should **NOT** be conducted on PIVOT for the first 18 months of ownership. Tencate recommends regular removal of debris and trash from the field. Please perform this action weekly using a LitterKat or similar equipment, as with a standard product. Tencate also recommends recording the pile height using an infill probe to track the matting process over time. The measurements should be recorded on the Tencate maintenance form to ensure compliance with the warranty. Again, maintaining accurate maintenance records is **REQUIRED** for continued warranty coverage. Once the product has matted to roughly .5" lower than the starting pile height, please resume drag brush grooming of the product. NEVER use tines to groom a PIVOT field. This will reverse the matting process and create uneven performance on areas of the field. Tencate recommends grooming the field quarterly once the matting process is concluded. Please refer to the grooming section of this document for more detailed information regarding grooming patterns.

> High Traffic Areas

Similar to tufted products, PIVOT will exhibit faster wear and tear in areas of high traffic. These areas are common to both PIVOT and standard tufted products. Depending on the sport in question, Tencate recommends weekly monitoring of areas like:

- Corner Kicks (soccer)
- Penalty Inlays (all sports)
- Extra Point Inlays (football)
- Turf Adjacent to 2nd and 3rd base (slide paths of baseball)
- Home Plate Area (baseball)



> Plowing

Tencate does not recommend snow removal or plowing unless performed by a trained professional. If use of the field is absolutely necessary, plowing may continue **EXTREMELY CAREFULLY**. Do not use common salt, rock salt, calcium, chloride, ammonium nitrate or other corrosive or toxic chemicals to melt snow and ice on Tencate surfaces. Their presence can be harmful to players, mechanical equipment and possibly damage the field itself. PIVOT contains only cooling additive and must be treated more carefully than a standard, infilled product. Tencate recommends leaving 2-5" of snow on top of the field after plowing, followed by snow shovels or Laymor to gently brush the remaining snow from the surface. NEVER dig a Laymor brush deeply into the field to help remove heavier snow. Doing so may damage seams and/or the PIVOT material itself.

Tencate expressly prohibits the use of metal street plows and any form of road going vehicle. Lightweight tractors using specially configured buckets are the **ONLY** approved, mechanized, equipment for Tencate athletic products. Lugs, chains, and studs are damaging to the synthetic surface and should not be used. Do not park equipment on the field overnight or for extended periods of time. Please contact your Tencate representative for information on professional plowing services.

Tencate prohibits the removal of ice as remnants can be dangerous to players and the general public. Further, improper removal can result in damage to fibers and/or primary backing of the product. It is not advised to use a tarpaulin cover on the field during freezing weather, as covers can freeze to the surface through condensation and thus damage the fibers during removal.



> Stains/Odors/Contaminants

PIVOT cleaning and disinfection procedures are identical to other Tencate products. **Only use APPROVED CLEANERS and DISINFECTANTS**. Please reference the approved system components appendix for a list of all approved cleaners and disinfectants. For pet odor and/or waste, Tencate recommends TurfFresh cleaning solution. Please follow all directions on the product to prevent damage to the surface. For blood and other contaminations, please utilize OxyTurf or mPerial to ensure removal of any harmful bacteria or disease.

> IF CONTAMINATION OCCURS

- **RINSE** the affected area with water using a hose
- Apply the approved cleaner as per instructions
- Only use cleaners from the approved system component list
- **DO NOT** use a high-pressure washer, or steam cleaner as this can severely damage the field
- If in doubt please contact your local Tencate representative for assistance

WHEN IN DOUBT, CONTACT YOUR TENCATE REPRESENTATIVE



Building Healthier More Beautiful Communities