Maintenance guidelines

3G Products

How to ensure the continued performance of your TigerTurf pitch



TigerTurf™

A TenCate Grass Company

Maintenance Guidelines - 3G Products

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Introduction

Your TigerTurf synthetic sports system consists of specially manufactured artificial turf, often including specified levels of infill sand and rubber granules. The combination of high-quality turf and infill, together with the correct installation procedure, will provide a safe, comfortable and durable playing facility. The field will in effect be similar to one with a natural grass surface. The main aim of this document is to ensure that the field is always at its optimum playing condition by providing you with the correct information to maintain it in the best way possible.

TigerTurf strives to provide turf systems offering the highest possible performance parameters. To this end, we provide guidelines for the use and maintenance of the system in order to guarantee our product's continued outstanding performance. If more detailed information is required, specific advise should be sought from your specialist maintenance provider.

Contents

Section 1: Provides information on how to avoid any performance issues with the TigerTurf system.

Section 2: Provides general information on how players and the public can assist in safeguarding the day-to-day performance of the system.

Section 3: Provides information on how to maintain the TigerTurf system, including subchapters on daily, weekly and annual maintenance.

Section 4: Is a summary of prohibited activities, key points to remember and two appendices.

Appendices

1. An example of a handwritten maintenance & usage record.
2. Two examples of different online portals offered by specialist maintenance providers where maintenance and usage can be recorded.

Please ensure that persons responsible for the day-to-day maintenance of the surface are aware that maintenance and usage information must be recorded and have access to either a handwritten log or an online portal. You should also review the warranty document provided at the time of installation and familiarise yourself with the specific prohibitions and limitations contained therein.

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1. Ensuring the field meets its optimum performance standards

In order to preserve the playing characteristics of your TigerTurf system, it is essential that the following are considered and subsequently avoided.

1.1 Contamination of the turf and infill

Contamination of the field and, more importantly, contamination of the sand and rubber infill material can create a negative effect on the playing characteristics. Such contamination can over-compact the infill, causing hardening of the surface. In turn, this can create poor water permeability, variable ball bounce, poor grip and possible damage to the fibres or fibre loss.

Possible contaminants:

- Airborne particulates from natural rainfall or from water sprinkler systems.
- Foreign bodies imported as a result of high winds.
- Fallen foliage and other plant debris from seasonal climate change.
- Animal fouling.
- Soil or organic debris that players, members of the general public and/or machinery might bring onto the field on their shoes or tyres.
- Ingredients in food and drinks, including acid or sugars, could have a detrimental effect on the fibres or on the quality of the infill.
- Food and drink packaging as well as other litter.
- Chewing gum, which can become entangled in the fibre or infill.
- Natural wear and tear of the fibres creating a residue on its own.
- Oil, fuel or grease leaking from mechanical maintenance equipment.
- Weeds, algae and/or moss that could thrive if the maintenance schedule is neglected.

1.2 Damage to artificial turf and infill

Damage to the system could also influence the playing characteristics, including the ball behaviour, of the TigerTurf system.

Damage to the field could be caused by the following:

- Driving incorrect or unsuitable maintenance machinery or equipment with inappropriate tyres onto the playing surface.
- Cigarettes or fireworks, which can cause damage and alter the characteristics of the fibre and infill materials.
- Ingredients in food or drinks (including acid or sugars), which could have a negative impact on the fibres or the infill.

2. Guidelines for users and spectators

The next paragraph will outline elements which could affect the playing characteristics of your TigerTurf artificial surface. Maintenance is a requirement irrespective of the level of usage. Even in cases of infrequent use, the maintenance schedule needs to be undertaken in accordance with these guidelines.

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2.1 Normal use as a football field, rugby field or MUGA

As the owner/manager or end user, you can contribute to keeping the surface in optimum playing condition by enforcing a certain amount of discipline. By maintaining the following rules, you can help prevent the possible damaging effects previously mentioned.

TigerTurf recommend that rules boards be posted at each entrance to the field asking users, spectators and others to:



- Avoid unnecessary vehicular traffic.
- Use the surface for the specific use to which it was designed.
- Wear the appropriate footwear.
- Forego any use of open flames, fireworks or items such as welding arcs, as they will cause damage to the fibres and infill.
- Ensure the correct disposal of general rubbish.
- Access traffic routes across the field in such a way as to minimise contaminants being brought onto the surface.
- Refreshments should be distributed and consumed off the surface.
- Do not smoke on or near the surface.
- Do not allow animals/pets onto the surface.

Rules boards should be supplied by the field installer but can be purchased direct from TigerTurf.

2.2 Watering of the field

In hot climates and certain geographical regions, coaches and players may prefer that the surface is watered prior to use in order to lower the surface temperature. This practice is one that is also recommended by TigerTurf because, in periods of very hot weather, a wet field provides evaporation, which lowers the temperature of the playing surface. Ideally, the temperature of a wet synthetic surface should be equal to that of a natural grass field.

The ideal time to water the surface would be 1-2 hours prior to the start of the playing period.

On extremely warm days, it is recommended that the field be used during the ‘cooler’ periods of the day.

2.3 Special use as a venue for other events

In the case of all non-designated uses of the system, you should be aware that damage to the surface is not covered by the TigerTurf warranty. If the surface must be used for special events, then the following guidance should be adhered to:

- No static load of more than 2 Psi (0.15 kg/cm2) nor any transient or dynamic load of more than 25 N/cm2 should be allowed on the surface. The weight load of a pneumatic-tyre vehicle is approximately equal to the air pressure in its tyres. It is, therefore, good practice to eliminate any unnecessary long- term parking or other weight loading and to minimise vehicle activity as much as possible. Sheets of 18 mm thick plywood typically 2 m x 3 m in size, exterior grade, are ideal, and are recommended to assist spreading the weight load. It is also recommended that the surface be covered with plastic sheeting prior to putting down the plywood, to keep the surface clean.

Some kinds of plywood contain pollutants that can affect the surface and even discolour it.
- Smoking on or near the surface should be prohibited.
- Events that involve flames, excessive heat and/or fireworks should not be allowed.
- The surface should undergo a full maintenance program following each special event in order to restore it to its original playing condition.

3. Maintenance guidelines

Following a strict maintenance schedule is essential to safeguarding the longevity of your sports surface and ensuring compliance under the terms and conditions of the TigerTurf warranty.

There are a number of risks to the performance characteristics of the TigerTurf artificial surface which simply cannot be prevented by ensuring that users and spectators adhere to the rules. These dangers, which are caused by natural forces, can, however, be corrected by adopting and maintaining a strict maintenance program.

CORRECT MAINTENANCE IS A REQUIRMENT HOWEVER, FREQUENCY WILL VARY FROM SITE TO SITE DEPENDING ON USAGE LEVELS

The maintenance schedule of the TigerTurf artificial sports surface has been divided into 5 sections as described below:
1. Daily maintenance
2. Weekly maintenance
3. Monthly maintenance
4. Annual maintenance
5. Occasional maintenance

MAINTENANCE SCHEDULE

Type of activity	Daily	Weekly	Monthly	Annual	Occasional
Visual inspection	Chapter 3.1.1				
General housekeeping	Chapter 3.1.2				
Surface cleaning		Chapter 3.2.1			
Cleaning of the draingage system					Chapter 3.5.1
Removing stains					Chapter 3.5.2
Removing snow					Chapter 3.5.3
Repairs					Chapter 3.5.4
Field markings					Chapter 3.5.5
Localised topping up of infill		Chapter 3.2.2			
Removing weeds, algae and moss			Chapter 3.3.1		
Inspecting seams			Chapter 3.3.2		
Annual maintenance summary				Chapter 3.4	

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THE MAINTENANCE OF A TIGERTURF FIELD MUST BE RECORDED IN A LOGBOOK AS SET OUT IN APPENDIX 1 OF THIS MANUAL OR AN ONLINE PORTAL AS SET OUT IN APPENDIX 2

3.1 Daily maintenance

Daily maintenance is focused on ensuring the safety of the users and consists of the following:

3.1.1. Visual inspection

- *Equipment e.g goals, nets and corner flags:* visually inspect all nets and goal posts for damage and repair as required, paying particular attention to make sure that no sharp edges are protruding from the goal post structures. Visually inspect the corner flag posts for breaks or damaged anchor age points.
- *Artificial turf:* conduct a general inspection of the surface, checking for any damage to the grass, joints or infill, and immediately report any problems to your installer as such issues are not the responsibility of TigerTurf.

As well as the above-mentioned inspection, daily maintenance should consist of the following:

3.1.2 General housekeeping

The surface should be cleaned of litter such as cans, bottles and plastic bags.

MAINTENANCE IS BEST PERFORMED ON A DRY SURFACE

3.2 Weekly maintenance

The weekly maintenance inspection needs to focus not only on the condition of the fibres but more importantly on the infill material; care should be taken to inspect for possible contamination or vegetation growth. This is particularly relevant in geographical areas of heavy rainfall and/or where daily inspection may not always be possible. Please be aware that the TigerTurf warranty does not guarantee the playing performance, infill materials or issues relating to infill.

3.2.1. Surface cleaning

If at any time during your weekly inspection or otherwise, you find leaves, twigs or any other organic debris, the surface should be cleaned using the correct equipment, i.e., a leaf blower, or collected by hand. Further advice on the correct type of equipment can be provided by your specialist maintenance provider.

3.2.2. Localised topping up of infill

The amount and depth of infill that your TigerTurf product requires can be found on the data sheet that will have been supplied by your surface installer.

For example, if your product is being used as a football field, you should be aware that areas such as penalty spots, including planting foot areas, centre circles, corner arcs and goal mouths will require particular attention.

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Rugby and MUGA installations will also require high use areas redressing but these locations will vary depending on the type of activity being played on the surface.

As these areas are generally small, it is advisable to check them regularly using an 'infill depth tester'. The specific infill depth (in millimeters) required by your product is stated on the product data sheet. If any of the high use areas are found to be lower than required, the following actions should be carried out.

- In and around any area requiring attention, scrape/brush the area with a gardening rake or medium-strength sweeping brush until the fibre 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 either by hand or with the gentle use of a medium-strength sweeping brush

SAND WILL REDUCE DISPLACEMENT OF THE INFILL MATERIAL. IT IS THEREFORE RECOMMENDED THAT A MIX OF SAND AND RUBBER IS ADDED TO THE HIGH-USAGE AREAS



Following the manual inspection, the surface should be brushed with the weekly frequency depending on usage. Historically triangular brushes have been towed by a small tractor but more often we are now seeing equipment suppliers attach the brushes to the tractor unit (see below photos as examples) but either method is suitable for your TigerTurf system.

If your TigerTurf product is being used as a MUGA or small sided field, then drag brushing with a tractor may not be suitable. For MUGA's and other smaller installations, a handheld drag brush could be more affective and not apply unnecessary strain on the carpet seams.

It is important that the surface is brushed in varying directions to return the fibres to a vertical position, thus providing an aesthetic natural grass look. If a tractor is used during this maintenance process, particular attention should be paid to the following:

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- Always turn the tractor in wide loops.
- Ensure that turns are gentle and taken at reduced speed.
- Where possible, avoid turning on the line markings.
- Refueling machinery should not be undertaken on the surface.

If the weather is warm and dry, the infill material might appear to be high in the fibre. This is due to static caused by the heat being created within the infill material. This does not affect the playing characteristics of the surface; however, it may affect the visual appearance.

For daily and weekly maintenance, the following tools are recommended:

- A wheelbarrow to transport infill material.
- A flat, large shovel to replace and spread infill material.
- A medium sweeping brush to manually brush the fibre.
- A plastic rake to remove leaves and other organic debris and return the fibres to their vertical position.
- Ice cubes to freeze chewing gum residue for removal.

For daily and weekly maintenance, the following machines are recommended where applicable:

- A tractor (minimum 16 hp) with load-spreading low tread profile tyres.
- A brush with medium brushes (i.e triangular drag brush) if the tractor is not fitted with them.
- A hand drag brush.
- A leaf blower.







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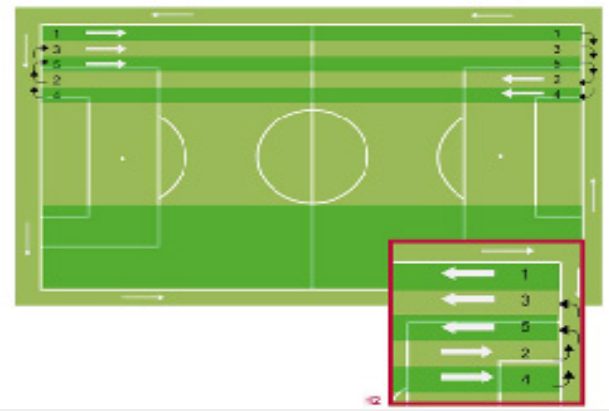
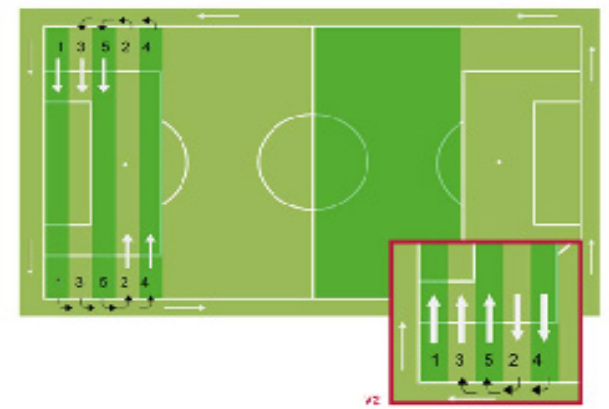
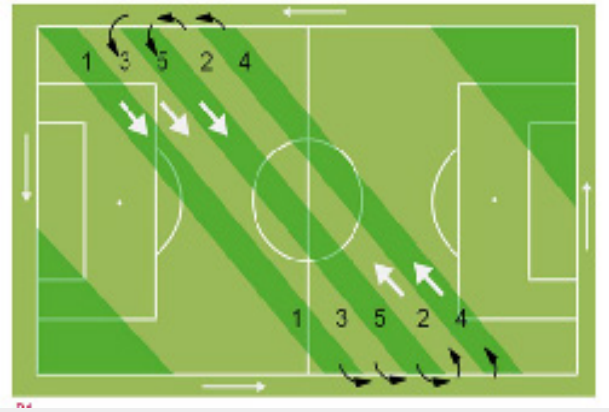
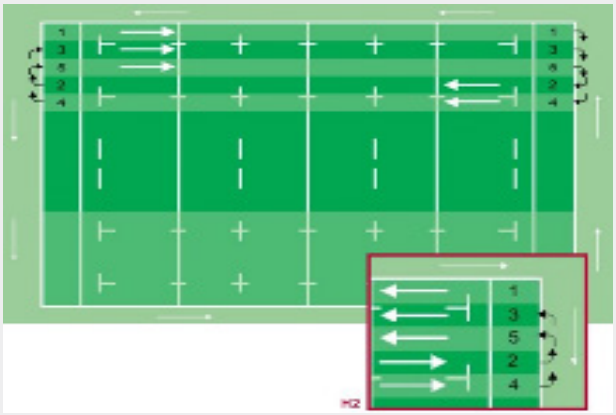
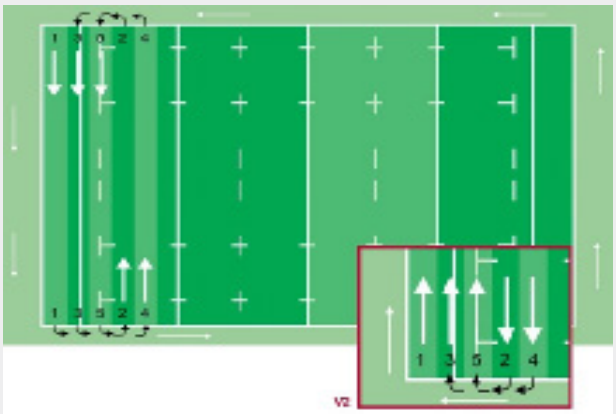
The following drawings will show you different brushing directions.

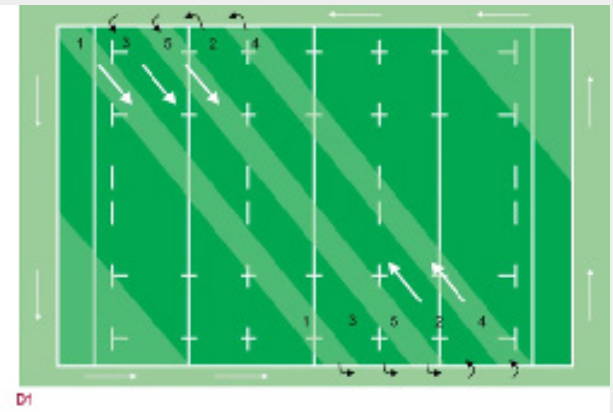












3.3 Monthly maintenance

3.3.1 Removal of weeds, algae and moss

By hand

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

- The recommended procedure for the removal of weeds is by hand; this ensures complete removal of the weed and roots without causing damage to the surrounding area. To avoid puncturing or damaging the surface, knifes or other sharp objects should not be used.
- If a daily and weekly maintenance program, which include the removal of organic debris and sweeping the surface are followed, the chances of algae and moss forming are significantly reduced.

By chemicals

If there is a persistent reoccurrence of weeds, algae or moss forming, then chemical treatments can be used but they must be water based with a pH value of less than 8.2. ***Please pay special attention to the chemical manufacturer's recommendations for use.*** If in any doubt, please seek advice from your specialist maintenance provider.

Once the weed, algae or moss has been killed, ensure that the remains are completely removed by hand.

3.3.2 Inspection of seams

Your surface is constructed from rolls of manufactured synthetic grass. These rolls, typically 4m in width, are jointed and, whilst the seams cannot be seen without close inspection, they require checking monthly. Special attention should be paid to line markings, as these are usually seamed during construction. Any damage found to the seams should be reported to your specialist maintenance provider immediately.

3.4 Annual maintenance

Outsourced specialist maintenance will be required throughout the lifespan of your TigerTurf system. These companies can provide services such as infill decompaction, vegetation treatment including the removal of moss / algae and will be responsible for carrying out any repairs that may be necessary during the products life span. It is therefore mandatory to have a contract in place with a specialist maintenance provider in order to fulfil TigerTurf's warranty requirements.

Evidence suggests that services such as infill decompaction and moss / algae treatment should be carried out a minimum of once per year, but each facility will have different needs and the exact frequency of these services can be advised by the maintenance provider. It is important that specialist maintenance is scheduled into your calendar to ensure this work can be carried out.

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3.5 Occasional maintenance

3.5.1 Cleaning drainage system

It is important that the drainage system remains clear of residual dirt to ensure that surface water drains from the field in an appropriate way. Manholes and inspection chambers should be checked from time to time and contact should be made with your installation provider to ensure these checks are carried out safely.

3.5.2 Stain removal

No food or drinks should be permitted onto the surface. However, TigerTurf products are made of Polyolefin fibres, which are extremely resistant to staining as they do not absorb moisture. It is therefore relatively easy to remove any temporary stains, as the offending material will not have been absorbed into the fibre.

If staining does occur, it should be dealt with as soon as possible and before it has chance to dry or harden. Most stains listed below can be removed with hot water or with natural household detergent as required. If scrubbing is required for stubborn stains, the use of paper towels, a sponge or a soft scrubbing brush is recommended to avoid damaging the fibres. The area should be thoroughly rinsed with clean water to wash away any detergents used.

TYPICAL STAINING AGENTS

Acid	Alcohol (including beer)
Alkali	Blood
Chocolate	Soda (including Cola)
Coffee	Dye
Food Colouring	Fruit Juice
Latex Paint	Milk
Mustard	Ketchup
Tea	Urine

Persistent or oil-based stains

If any of the products listed below are spilt onto the surface, urgent assistance should be sought from your specialist maintenance provider.

- Crayon, furniture stain, lipstick, metal polish, cooking oil, shoe polish, suntan oil, ballpoint ink
- Oil paints (Do not use for field markings)
- Nail polish
- Paraffin wax
- Tar or asphalt

Animal waste

If the waste is solid, you must remove the solid element first and then wash the area with natural detergent. If the waste is liquid, simply wash the area immediately with natural detergent and rinse with clean water afterwards.

Chewing gum

Gently rub the area with ice and, once the chewing gum is frozen, scrape to remove.

3.5.3. Removal of snow and ice

Snow and ice are not harmful to your surface and can be left to melt naturally.

The turf structure will freeze in conditions lower than -5°C; it is not advisable to use the surface during these temperatures. If unavoidable, a vacuum-dried salt can be applied at the application rate of 0.15kg per m2.

Snow can be removed using a wooden shovel. Sharp-edged metal or plastic shovels are prohibited.

It is recommended that users take additional care during periods of adverse weather as ice and snow may make the pitch slippery.

3.5.4. Repairs

As the summer months are often the high-usage period for the majority of surfaces, it is recommended that the surface is inspected closely in the spring for any potential damage that may require repair. If you intend to seek assistance for such repairs from your specialist maintenance provider, they will require as much notification as possible. It is not recommended that seam-gluing or infill installation is carried out in wet or damp weather.

We strongly advise that repairs to damage, no matter how small, are made in a timely fashion and that any temporary repairs are completed promptly to avoid an increase in future damage. Owners / end users should be aware that small seam repairs or cuts to the field are to be expected during the life of the field.

3.5.5. Field markings

Most synthetic surfaces require line markings of some description. Some surfaces have lines built in at the time of manufacture; however, if you choose to paint lines on, TigerTurf recommends the following procedures:

- Only apply paint when the surface and the fibres are totally dry and clean from contaminants.
- The recommended fibre temperature for best results is 18°C to 30°C.
- Only use recommended paint specifically designed for this purpose.
- Remove all old line markings if possible, after seeking advice on how to do so from your specialist maintenance provider.
- Fibres are manufactured to include a Teflon-like solution that initially will resist paint absorption; absorption will improve as the surface ages.
- Paint should be applied sparingly to ensure that no matting of the fibre occurs.
- Keep the necessary materials for cleaning paint residue or paint spills on site.
- The paint should be allowed to cure for 24 hours minimum before opening the surface to users.

If you’re in doubt about how to apply painted lines, seek advice from your specialist maintenance provider.

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4. Summary

With the many advances made in synthetic turf, including the latest innovations and developments, TigerTurf products require a less intensive maintenance program than ever before. However, your TigerTurf product will perform, look and feel better for a longer period of time if you adhere to the maintenance guidance outlined in this manual.

TigerTurf products rely partly on rubber infill which is a factor in the system's shock absorbency. It is, therefore, critical to maintain a sufficient level of infill across the entire playing surface. Special attention must be paid to high-usage areas such as goalmouths, corner spots and penalty spots. You should periodically inspect these areas for infill displacement and carry out the required action if levels are found to be below the specified depth stated on your product data sheet.

This manual is designed to provide guidance for the correct use and maintenance of your product, but if you have any further questions, feel free to contact TigerTurf.

Prohibited activities

- Storage of materials on the surface.
- Unnecessary or excessive vehicular traffic.
- Unauthorised sports, such as golf, shot putt, javelin or discus throwing.
- The use of inappropriate footwear.
- Open flames, fireworks, welding and other combustion activities.
- The use of wire brushes.
- Heavy loads exceeding 2 Psi (0,15 kg/cm2 static) or 25 N/cm2 dynamic.
- The use of unauthorised cleaning equipment, methods or materials.
- High-pressure washers or water sprayers exceeding 300 Psi (20 bar).
- Vehicles with non-pneumatic tyres.
- The introduction of infill that varies from TigerTurf specifications.

Key points to remember

- Control access to the surface.
- Keep the surface clean and brush in the accordance with this manual.
- Provide sufficient litter bins on site for public use.
- Keep vehicular traffic on the surface to a minimum.
- Install rules boards around the surface perimeter.
- Use plywood and fabric to protect the surface when special events are scheduled.
- Report any damage to your specialist maintenance provider.
- Maintain the surface according to the recommendations described herein, even if the surface is not being used regularly.

It is mandatory that all hours of play and surface maintenance are recorded on a weekly basis in order to comply with TigerTurf's warranty. An example of how this information can be recorded is given below in Appendix 1, however some specialist maintenance providers offer an online portal where this information can be recorded (see Appendix 2)

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End of life turf disposal

Historically when a synthetic turf sports field has come to the end of its usable life, disposal has been carried out in the most economical and convenient way. Often this has meant the surfaces end up in landfill or being incinerated. TigerTurf would strongly discourage these methods of disposal and encourage end users to check with the appointed contractor responsible for uplifting the turf as to where the material will be taken.

Today, recycling is the most popular of the Waste Hierarchy stages; and in many cases the best option for end of life (EOL) synthetic turf surfaces. Recycling involves the conversion of EOL products into either new products intended for different applications, or materials that can be used to produce new products.

Further information on your nearest synthetic turf recycling facility can be found on the SAPCA website https://sapca.org.uk/ and a guide to processing EOL synthetic turf surfaces can be found on the ESTC website https://www.estc.info/.

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APPENDIX 1: SURFACE MAINTENANCE & USAGE RECORD

Weather conditions						Temp
	✓					
Facility name						
Maintenance date						
Undertaken by						
Hours of play since last maintenance						
Run off areas						
Undesirable material	Organic:		Amount:	Removed:		
		Weeds	Low/medium/high	Yes/No		
		Foliage	Low/medium/high	Yes/No		
		Algae	Low/medium/high	Yes/No		
		Moss	Low/medium/high	Yes/No		
	Non organic:		Amount:	Removed:		
		Litter	Low/medium/high	Yes/No		
		Glass	Low/medium/high	Yes/no		
Playing area						
General condition	Good/reasonable/bad					
Measurements	Free pile height (mm)		Infill depth (mm)			
Penalty spots						
Centre circle						
Corner arcs						
Goal mouths						
Loose seams	Yes/No		Repaired?	Yes/No		
Loose penalty spots	Yes/No		Repaired?	Yes/No		
Damage to the field e.g burn marks	Yes*/No		Repaired?	Yes/No		
*If yes, describe the damage and remedial work						
Maintenance carried out						
Brushing	Yes/No					
Visual inspection	Yes/No					
Surface cleaning	Yes/No					
Infill top up	Yes/No					
Hours logged on tractor						

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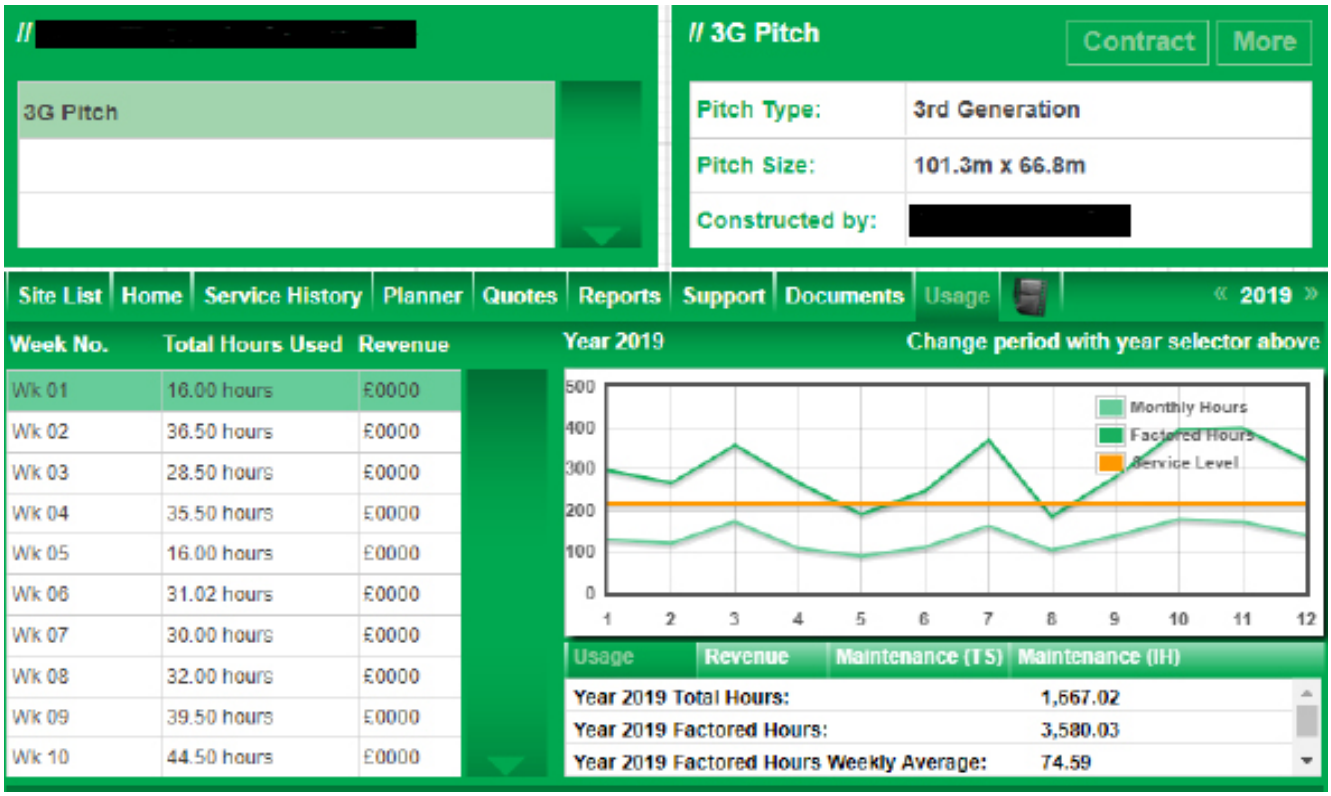
APPENDIX 2: EXAMPLE OF ONLINE PORTALS





TigerTurf UK Ltd
229 Ikon Droitwich Road
Hartlebury, DY10 4EU
United Kingdom

Tel +44 0 1299 253 966
UKinfo@tigerturf.com

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