HORNSBY SHIRE COUNCIL

SUPPLEMENTARY BUSINESS PAPER

GENERAL MEETING

Wednesday 13 September 2023
at 6:30PM

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SUPPLEMENTARY ITEMS

Mayoral Minute No. MM5/23
Date of Meeting: 13/09/2023

ITEM 13

13 REVIEW OF GAS CONNECTIONS IN NEW BUILDINGS

There has been significant coverage in the media recently about the financial and health benefits of banning gas connections in new developments. However, the NSW Premier, has ruled out a state-wide ban on new gas connections following the announcement of a ban in Victoria, which will take effect in January 2024, and the ban in the ACT which starts in November.

As a state-wide ban is unlikely to be progressed, I have received representations from members of the community suggesting that Council should initiate its own actions to address the issue. I am aware that both Parramatta City Council and Waverley Council have implemented new planning rules which restrict the installation of gas appliances in new residential and commercial developments in their local government areas.

The arguments in support of banning gas are widely documented and include health, economic, and environmental benefits. It is appropriate that we consider these benefits for our local community as gas is becoming increasingly expensive and more than one quarter of households are reporting they are struggling to pay power bills. We should also be responsive to exploring opportunities to address concerns that gas is toxic for human health, especially when used indoors for gas heating or gas cooking.

Hornsby Shire Council has a proven track record of investigating environmental sustainability initiatives. Specifically, our Sustainable Hornsby 2040 Strategy includes a Climate Wise Hornsby Plan which outlines the importance of reducing greenhouse gas emissions to mitigate the effects of climate change and assist the community to adapt to a changing climate. Therefore, it would be appropriate that Council reviews the environmental, health and economic benefits of banning gas as we seek to reduce our emissions.

Accordingly, an Informal Councillor Briefing should be conducted with Councillors to discuss the advantages and disadvantages of introducing a ban on gas connections in new developments in Hornsby Shire and the legislative planning powers available to Council to implement any controls.

RECOMMENDATION

THAT an Informal Councillor Briefing be conducted with Councillors to discuss the process, implications, and timeframes for preparing potential amendments to relevant Hornsby Shire Council development controls which would require new residential and non-residential developments to be electric and gas-free.

The Honourable Cr PHILIP RUDDOCK

Mayor

ITEM 13

Attachments:

There are no attachments for this report.

File Reference: F2007/00247-03
Document Number: D08727754

ITEM 15

15 RESPONSE TO QUESTION WITH NOTICE NO. QWN2/23 - SYNTHETIC TURF

Response to Question with Notice raised at the General Meeting held on 09 August 2023.

ASKED BY COUNCILLOR BALL

TO THE Director Community and Environment:

1. Could officers provide a full list of all the materials, compounds and chemicals that are used and found in synthetic turf and infill - both added and incidental from manufacturers of best practice synthetic turf that might be considered in the future for use by Council at sportsgrounds. The requested information should be more detailed than the Safety Data Sheets or Material Safety Data Sheets as they do not contain the full list of components.
2. Could officers provide any end-of-life recycling or disposal options provided by synthetic turf manufacturers.
3. Could officers provide a full list of chemicals, compounds and materials recommended for the installation and maintenance of a synthetic turf sportsground.

Response

Following Councillor Ball's Question with Notice, officers have reached out to three major synthetic turf providers seeking information to provide a response.

At the time of drafting this Report, a response has been received from one supplier as follows:

Question 1: The supplier provided a Material Safety Data Sheet for LLDPE-Grass Yarn, chemical characterisation LLD Ethelyne/1-Hexene Copolymer, CAS-No: 21213-02-9. A copy of the MSDS is provided at Attachment 1.

Question 2: Re4orm recycling (https://re4ormrecycling.com.au), an end-of-life recycling facility for synthetic turf is presently under construction in Barnawartha near the Victoria/NSW border. Re4orm advise that the facility is scheduled to open in the 1st Quarter in 2024. When operating the facility will process approximately 7,000 tonnes of used synthetic turf each year. Materials able to be recovered at the facility include sand, styrene-butadiene rubber, polyethylene fibre and polypropylene. This material is then available for reuse in other products and industries.

Question 3: Synthetic field maintenance guidelines provided to Council in response to the Question with Notice recommend the following maintenance regimen.

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	ACTIVITY	NORMAL USE 20-30 hours/week	FREQUENT USE 30-50 hours/week	HIGH USE 50+ hours/week
1.	Cleaning the surface, debris, like leaves, paper, food waste etc.	Once a month and as required	Every 3 weeks and as required	Every 2 weeks and as required
2.	Check & top up infill at penalty points etc.	Daily	Daily	Daily
3.	Inspection of line markings and seams	Once a week	1 to 2 times a week	Twice a week
4.	Decompacting/brushing	Once a month	1 to 2 times a month	Twice a month
5.	Measuring infill level	Once a month	Every 3 weeks	Every 2 weeks
6.	Measuring ballroll	Optional	Optional	Optional
7.	Aeration/specialist maintenance	Once or twice a year	Once or twice a year	Once or twice a year

The maintenance guide also provides that any weeds identified (particularly on the edges of the field) are best removed by hand by pulling them up by the roots. The guide further note that if weather permits (it will need to be sunny and dry for at least 3 days), the weeds may also be destroyed using a biodegradable weed killer and must then be removed.

A copy of the guideline is provided at Attachment 2.

Should further responses be received from other synthetic turf providers, officers will also provide this information to Councillors.

Attachments:

1. MSDS - LLDPE Grass Yarn

2. Maintenance Guidelines for Synthetic Fields with Performance Infill

File Reference: F2004/08918-02
Document Number: D08698395

morton extrusionstechnik gmbh

Material safety data sheet

Nummer: SD_329_01
Datum: 02.09.2016

LLDPE-Grass Yarn

1. Substance/preparation and company identification

Grass Yarn consisting of LLDPE
Use: Grass Yarn for artificial turf

Company:
Morton Extrusionstechnik GmbH
Im Pfarrgrund 5
69518 Abtsteinach
GERMANY
Telephone: +49 6207-92395-0
Fax: +49 6207 92495-39
e-mail: info@morton-extrusionstechnik.de

2. Composition/information on ingredients

Chemical characterization of polymer:
LLD Ethylene/1-Hexene Copolymer, CAS-No: 25213-02-9

Physical characterization:
Grass Yarn with different yarn-count, different colours, wound-up on capable spools

3. Hazard identification

According to Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures:
Label elements and precautionary statement:
The product does not require a hazard warning label in accordance with GHS criteria.

Classification of the substance and mixture:
No need for classification according to GHS criteria for this product.

Possible Hazards (according to Directive 67/548/EWG or 1999/45/EC):
No particular hazards known.

4. First-aid measures

Inhalation
No specific treatment is necessary since this material is not likely to be hazardous by inhalation.
If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

Skin contact
Product, at ambient conditions, is not expected to be hazardous by skin contact. Should irritation occur, rinse with water.
In case of contact with molten product, cool rapidly with water and seek immediate medical attention. Do not attempt to remove solidified polymer from skin.

Eye contact
Flush eyes with water as a precaution. If irritation persists get medical attention.
In case of contact with molten product, cool rapidly with water and seek immediate medical attention.

Ingestion
If swallowed, do NOT induce vomiting. Consult a physician if necessary.

Notes to physician
Contact with molten polymer can cause significant tissue damage. Provide general supportive measures and treat symptomatically.

5. Fire-fighting measures

General fire hazards
Polymer can burn if exposed to a fire. Acetaldehyde vapors form explosive mixtures in air and can spontaneously ignite at temperatures above 347F (175C).

Industrial handling of polymer pellets or chips has the potential to generate dust. Polymer dust can accumulate over time on buildings and equipment. After a significant amount of dust accumulation and disturbance, dust may form explosive mixture in air. Ensure that good housekeeping practices are followed.

Hazardous combustion products
Irritating and toxic gases or fumes may be released during a fire.
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Molten polymer or prolonged air drying of polymer at temperatures above 195 °C will release small quantities of acetaldehyde (CAS# 75-07-0).

Suitable extinguishing media
Dry chemical, CO2, water spray or regular foam.

Extinguishing media which must not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

Protection of fire-fighters
Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Specific methods
In the event of fire and/or explosion do not breathe fumes.

6. Accidental release measures

Personal precautions
Surfaces may become slippery after spillage.

Methods for cleaning up
Clean up in accordance with all applicable regulations.

Other information
Sweep up or gather material and place in appropriate container.

7. Handling and storage

Handling
Use care in handling/storage.
Molten material can cause burns. Handle molten material with care.

Storage
Keep away from heat, sparks, and flame.

Further information
Use good housekeeping methods to keep accumulation of dust to a minimum

8. Expose controls and personal protection

Addition Exposure Data
No exposure limit value known

Engineering measures
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment

Respiratory protection
When dusts or thermal processing fumes are generated and ventilation is not sufficient to effectively remove them, appropriate respiratory protection must be provided.

Hand protection
Not normally needed under ambient conditions.
For molten material use heat resistant gloves.

Eye protection
Wear safety glasses with side shields.
If handling molten material, additional protection may be needed, which may include face shield.

Skin and body protection
It is a good industrial hygiene practice to minimise skin contact.
When material is heated, wear gloves to protect against thermal burns.

Hygiene measures
Use good industrial hygiene practices in handling this material. Wash hands before breaks and at the end of workday.

9. Physical and chemical properties

Colour	Based on specification.
Form	Solid.
Odour	Slight to none.
Auto-ignition temperature	> 300°C
Boling point	not determined
Decomposition temperature	> 300 °C
Flashpoint	closes cup: > 300 °C
Melting point	115 to 132 °C
Octanol / H2O Coeff	not determined
Odour threshold	not determined
pH	not determined
Solubility (H2O)	insoluble

10. Stability and reactivity

Stability
This is a stable material.

Conditions to avoid
Heat, flames and sparks.

Hazardous polymerisation
Not expected to occur.

11. Toxicological Information

Toxicological information
Due to this material's high molecular weight, this material is considered to be of little to no toxicological concern.

Acute toxicity
LD50/oral/rat: >5.000 mg/kg

Mutagenicity
No known significant effects or critical hazards.

Teratogenicity
No known significant effects or critical hazards.

Developmental effects
No known significant effects or critical hazards.

12. Ecological Information

Ecotoxicity
This material is not expected to be harmful to aquatic life.

Persistence and degradability
Based on the physical properties of this product, significant environmental persistence and bioaccumulation would not be expected.

13. Disposal consideration

Disposal Instructions
Dispose in accordance with all applicable regulations.

14. Transport Information

ADR Not regulated as dangerous goods.

IMDG Not regulated as dangerous goods.

IATA Not regulated as dangerous goods.

15. Regulatory Information

Regulations of the European union (Labelling) / National legislation/Regulations

Directive 1999/45/EC ('Preparation Directive')
The product does not require a hazard warning label in accordance with EC-Directives

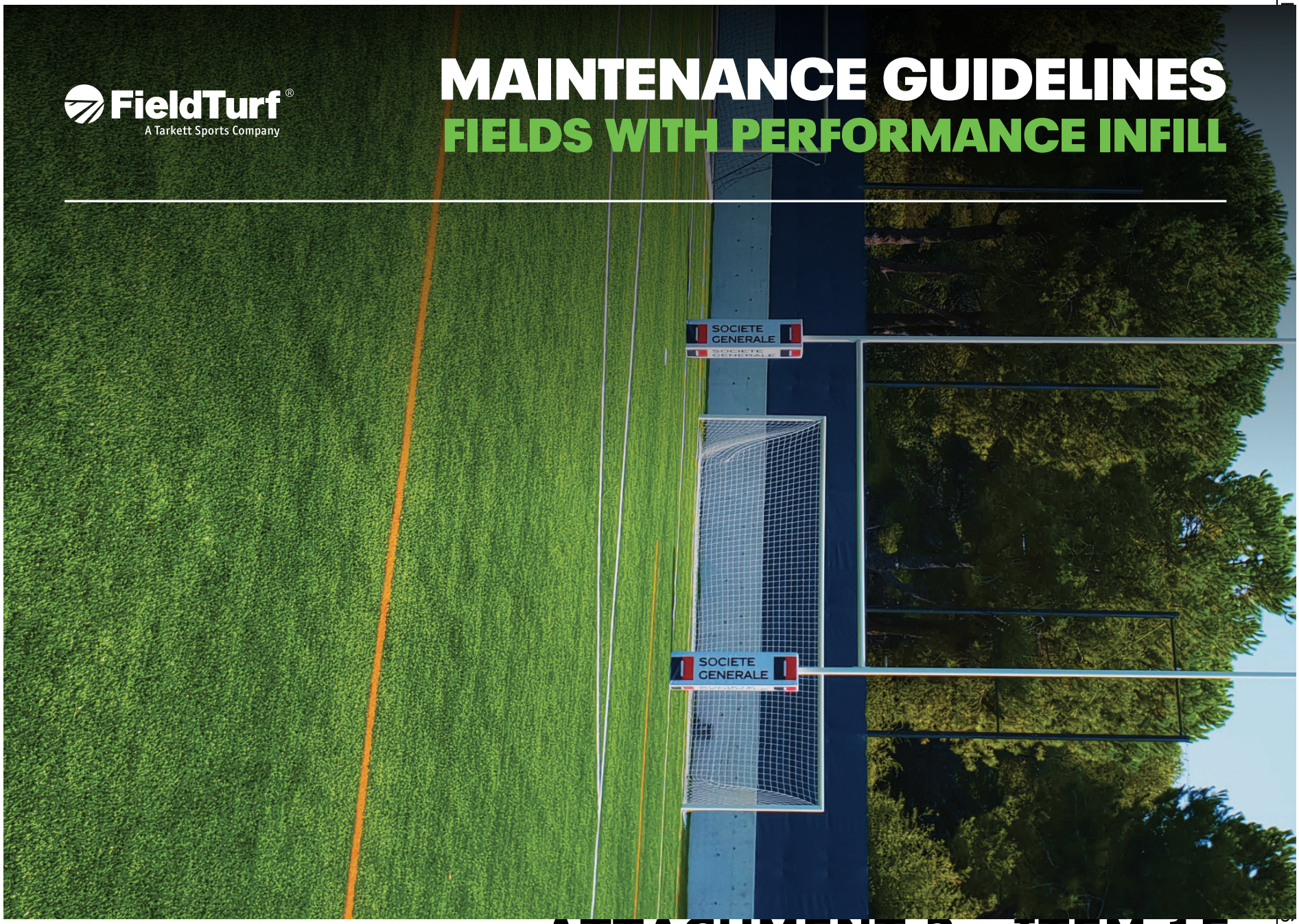
16. Other information

This MSDS is related to Regulation (EC) No. 1907/2006, even though the product is not hazardous and there is no duty to issue a MSDS.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements.
The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet.
It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

FieldTurf®
A Tarkett Sports Company

MAINTENANCE GUIDELINES
FIELDS WITH PERFORMANCE INFILL



ATTACHMENT 2 - ITEM 15

WELCOME TO FIELDTURF!

It is my great pleasure to welcome you to FieldTurf, part of the Tarkett Sports family. Thank you for putting your trust in our hands. This is the beginning of a long-term partnership between our two organizations as together; we are making a real commitment to the thousands of athletes who will play on your new field for years to come.

We are proud to have developed such a complete and high-performance range of sports surfaces and we are confident that you will be delighted with the playing characteristics of our latest generation of synthetic turf pitches.

Although FieldTurf pitches and playing surfaces require less maintenance than natural grass, there are some essential procedures to follow to ensure that your pitch continues to perform at the highest level and remains in optimal condition.

For ease of use, this manual will describe general maintenance of fields using performance infills. However, often additional maintenance is required relating to the physical size of the playing surface or the infill type and we have included suggestions within this manual as to the regularity and type of procedures we recommend.

As always we, as a company, are happy to provide support and technical assistance to our valued customers – please do look through the Frequently Asked Questions (FAQ) section for immediate assistance. However if your query remains unresolved do please contact your FieldTurf representative for friendly, on the spot help.

Please take the opportunity to read these maintenance guidelines. **It is imperative that all maintenance personnel review these guidelines. There is a specific leaflet included for their convenience to help make your life as easy as possible.**

Once again, thank you for choosing FieldTurf and we look forward to a long and happy relationship together.

Welcome to the family!

Sincerely,
Eric Daliere
President

FieldTurf®
A Tarkett Sports Company

This manual will describe maintenance of fields using performance infills.

Note: There are two types of maintenance for artificial turf fields -

Maintenance performed by the user/owner
This manual is specifically concerned with this type of maintenance and it is very important that the people involved with the field maintenance read this literature carefully and have the correct equipment to carry out this maintenance properly.

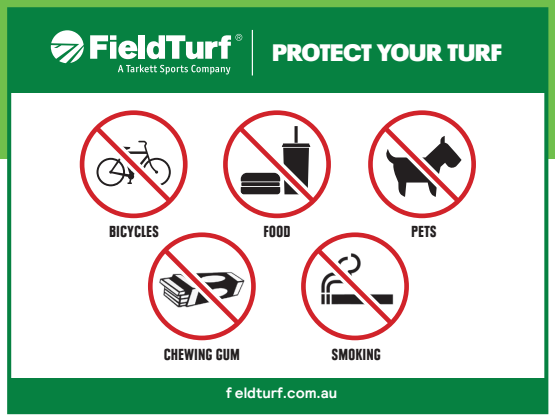
Maintenance carried out by a specialized company
This maintenance will be carried out once or twice year and will be a more intensive treatment. In addition to procedures carried out on the field, inspections will also be made on structures such as goals and fencing etc.

CONTENT

GENERAL MAINTENANCE INSTRUCTIONS

Basic field restrictions

Your FieldTurf artificial turf pitch must be designated as a no-smoking area and protected from cigarettes, glass, fireworks and any sharp objects that could potentially damage the surface or injure players. Your pitch must also be kept free from litter, leaves and wind-borne materials



1 Infill Settlement

It will normally take several months for the infill to settle between the grass fibers. Over this time, the infill will settle to its ideal level (for details see the specification) and the pitch will settle to a uniform playing surface in line with our engineered design specifications. Regular maintenance should start immediately after the handover of the field.

2 Cleaning the surface, debris, like leaves paper cantina waste etc.

Regular maintenance is required to keep the field clean. FieldTurf advise you that the pitch should be cleaned at least every week. In case of heavy soiling, during autumn for example, it may be necessary to clean the field more often. The following actions should be performed:

- removing weeds
- removing moss, dirt, leaves and needles
- removing waste

Weeds appear mostly in the spring/summer, particularly on the edges of the artificial turf. The weeds are best removed by hand, by pulling them up by the roots. If weather permits (it will need to be sunny and dry for at least 3 days), the weeds may also be destroyed using a biodegradable weed killer and must then be removed.

Moss, dirt, needles and leaves from trees and shrubs often find their way on to the field. If these are not removed in a timely manner, they will penetrate deeper into the field, which adversely affects water permeability.

If motorised machines are used for this purpose, ensure that they do not leak any (motor and/or hydraulic) oil. Oil/gasoil is difficult to remove and will damage the artificial turf. It is therefore important to remove such contamination as quickly as possible by using:

- Leaf blower for the result blow the leaves and needles to one side of the field in the direction of the wind, from where the same can be collected with a leaf rake and removed.
- A small sweeper
- A plastic leaf rake

Waste such as glass, cans, cigarettes, fireworks and chewing gum requires special attention.

It is mandatory that all players clean their shoes before using the playing surface as encrusted mud and dust, particularly in studded shoes can be a major cause of stains and dirt on the pitch.

To prevent this, we recommend that players should thoroughly wipe their feet before entering the field by using:

- a dirt sluice with grille
- a walk-on/walk-off mat
- brushes
- a gravel container combined with a walk-on/walk-off mat

Special information and signs at the entrance gates must be present to draw the attention of the players to these instructions, including indicating allowed shoe ware.

All stone paths along the field must be swept frequently, the dirt sluice, walk-on/walk-off mat, brush or container with pebbles at the entrance of the field must also be inspected and cleaned.

3 Acceptable footwear

To ensure long term performance and avoid damages on your pitch, FieldTurf recommends to use specific footwear. To know which shoes are suitable for your pitch, please refer to the below table and to your FieldTurf representative.

RECOMMENDED	RECOMMENDED	RECOMMENDED	NOT RECOMMENDED	NOT RECOMMENDED
Studs (moulded)	Plastic studs / screw in (screw in less than 13mm)	Synthetic turf trainers	Blades or boots with metal or metal tipped studs (more than 13mm)	Flat soled trainers (eg. Indoor or running trainers etc.)
				

Please make sure players' boots are clean before going onto the pitch. Anyone with inappropriate footwear or muddy footwear should be asked to leave the pitch as it damages the playing surface.

4 Check & top up infill at penalty points etc.

Major points of attention are certain intensively used areas of the pitch such as player shooting areas, penalty spots, the centre and corners and the goalmouth. Playing is usually more intensive in these areas and these sections need to be checked more frequently, particularly after intensive training and matches.

Regular redistribution or refilling of infill is required to prevent damage to the artificial turf. To ensure uniformity, the procedure for refilling is:

STAGE **1**

Using a semi-rigid brush agitate the affected area requiring infill replacement to straighten up the turf fibers.

STAGE **2**

With a wide flat spade or just by hand, spread and distribute the required quantity of infill evenly over the areas where it is required, taking care to distribute evenly in fine layers to prevent the fibers flattening.

STAGE **3**

Brush the infill into the artificial turf by agitating the fibers once again with a half-rigid brush.

STAGE **4**

Repeat stage 2 until the artificial turf is filled correctly (maximum 20 mm of visible fibers).

5 Inspection of line markings and seams

If seams or line markings come loose, they must be repaired as soon as possible. Minor damages to the artificial turf should be repaired immediately by skilled/trained people. Please contact your FieldTurf representative in case of (major) repairs.

6 Decompacting/brushing

In order to maintain the loose infill at an optimal level, we recommend that your field should be treated regularly. The frequency depends on the size of the field, the number of players and the hours of use.

For your convenience, a guideline (below) is available. The artificial turf should be treated in various directions (see Appendix B). This work can be done in dry or slightly damp conditions. The driver should pay attention to:

- Reduce speed when turning the vehicle.
- Turns should be at wide curves with a diameter of 6 to 10 metres.
- Do not brake suddenly. Braking suddenly will cause the tyres to penetrate into the base surface and might cause wrinkles and or depressions in the sub base.
- The tyre pressure of the vehicle must be less than 0.75 kg/cm2.
- When carrying out this operation do not forget the edges the corner-points of the field that moss and algae grow can start.
- If the Promax granules splashes too much, one should lower the speed

Alternative Device

FieldTurf strongly recommend using the KB 1000 to decompact/brush your pitch. Although Fieldturf prefers the use of the KB 1000, the HDT15 is (still) a good alternative. The use and precautions are as the ones for the KB1000. The tuning of the height of the tines is described in its operation manual. One should check on a regular basis the length of the tines.

Other Acceptable Device

Another alternative would be a regular triangle brush in combination with a device with tines. The treatment should be three times brushing to one time treatment with tines. When using a device with tines, a professional company must carry out the works and the tines must not be set too deep into the turf. **FieldTurf has to approve the device with tines which you intend to use.**

Note

If the field becomes flooded, contact your FieldTurf representative. Faulty and/or inadequate treatment may adversely affect the water permeability of the field.

7 Measuring infill level

It is very important monitor the infill level of your pitch. Should it drop significantly, you must contact your FieldTurf representative or a specialised company to add infill to critically affected areas.

It is of course essential that you commit to keep subsequent infill identical to the initial infill, both in terms of level and of quality. Therefore it could be helpful to measure the infill height with the Floortester and could help to plan decompacting maintenance.

Do not forget to fill your maintenance log to keep track of all operations carried out (Appendix A).

8 Measuring ballroll

You can measure ballroll with a ballramp and record your findings in the logbook (Appendix A).

9 Specialized companies Maintenance

Companies for which maintenance is their daily business offer this service. This maintenance need to be carried out 1 or 2 times per year.

Their personnel will inspect the field looking carefully at the general state of the pitch, the seams and the lines, the “sports attributes”, like goals and cornerflags. The treatment of the pitch consists of cleaning the field from dirt, debris etc., a deep-aeration of the infill, repair of seams and lines according the contract, filling up of penalty spots. Inspection manholes and drainage pipes must be inspected at least once every 2 years and it is advised that a specialised company is engaged for this purpose.

SUMMARY OF GENERAL MAINTENANCE ACTIVITIES

A maintenance log (Appendix A) can support to keep track on the operation carried out.

	ACTIVITY	NORMAL USE 20–30 hours/week	FREQUENT USE 30–50 hours/week	HIGH USE 50+ hours/week
1.	Cleaning the surface, debris, like leaves, paper, food waste etc.	Once a month and as required	Every 3 weeks and as required	Every 2 weeks and as required
2.	Check & top up infill at penalty points etc.	Daily	Daily	Daily
3.	Inspection of line markings and seams	Once a week	1 to 2 times a week	Twice a week
4.	Decompacting/brushing	Once a month	1 to 2 times a month	Twice a month
5.	Measuring infill level	Once a month	Every 3 weeks	Every 2 weeks
6.	Measuring ballroll	Optional	Optional	Optional
7.	Aeration/specialist maintenance	Once or twice a year	Once or twice a year	Once or twice a year

CORK INFILLED PITCHES SPECIFIC MAINTENANCE INSTRUCTIONS

On top of the previous general instructions, fields filled with cork require added and/or specific maintenance actions.

ON THE SURFACE
It is possible that the cork will rise to the top of the fibers, if this happens sprinkling can be used to bring the cork down again.

AFTER RAINFALL
Due its lightweight, a field with cork needs more attention. When the cork is displaced due to heavy rainfall, redistribute it after the cork has dried out. The best result will be achieved with the dragmat.

VEHICLE ACCESS

Your FieldTurf sports surface is specifically designed to withstand the weight of vehicles without damaging the playing surface, providing the following guidelines are adhered to:

- Only vehicles fitted with low-pressure turf tyres are authorized for access onto the pitch surface.
- Vehicles should change direction by turning in large loops.
- The steering wheel should be turned only whilst the vehicle is in motion.
- Any vehicle planning to be in direct contact with the playing surface should be inspected prior to approaching the pitch to ensure it is in good condition with no oil or hydraulic fluid leaks.
- The vehicle wheels should be cleaned prior to maintenance to avoid leaving mud or dust on the pitch surface.
- Oil/gasoil protection.
- All vehicles should be driven slowly, avoiding any acceleration and abrupt wheel rotation (swivel) and sharp or sudden braking should be avoided.
- The pitch will need to be prepared based on the volume of traffic on the surface.

Note: Emergency vehicles can be safely driven on your FieldTurf pitch

PITCH PROTECTION

Should your FieldTurf pitch be used for events other than the specific approved activity the playing surface must be protected at all times to prevent possible damage.

The following pitch protection systems are required to cover various events – please do discuss with your FieldTurf representative should you require further advice.

Light events protection
For light events with applied loads of less than 28t/m2, such as:

- School based events.
- Concert and plays without heavy stage set.
- Receptions and low impact trade shows.
- Events which will include food and beverages.
- Events which will require protection against possible puncture from sharp objects such as chairs and tables.

Recommended pitch protection for the above:

- Reinforced vinyl tarps covered with one layer of plywood.
- Reinforced vinyl tarps with one layer of lightweight interlocking rigid tiles – please contact a FieldTurf specialist for advice.
- Reinforced vinyl tarps covered with one layer of interlocking tiles.

Medium events protection
For medium events with applied loads between 28 to 48 t/m2, such as:

- Using light vehicle traffic, such as pickups, cars, tractors and forklifts.
- Trade shows and markets.
- Events which will require protection against possible puncture from sharp objects such as chairs and tables.
- Reinforced vinyl tarps covered with one layer of 8cm thick plywood is essential pitch protection for the above.

Heavy events protection
For heavy events with applied loads of more than 48 t/m2, such as:

- Tractor and other large vehicle rallies, including motorbikes.
- Major concerts and events with heavy stage loads.
- Trade shows involving boats and other heavy equipment.
- Heavy vehicle loadings and heavy concentrated loads, such as crane outriggers, support column bases etc. should be supported on multiple layers of plywood over a heavy duty reinforced vinyl tarp.

Essential pitch protection for the above would be: heavy duty reinforced vinyl tarps covered with 2 layers of 8 mm thick plywood installed in a staggered pattern, ideally fastening the top layer of plywood to the bottom with screws every 60-90 cm centres. Heavy vehicle traffic including forklifts used for installing and removing event equipment should circulate on adequate protection comprising 1 to 2 layers of plywood on reinforced vinyl tarps.

Care should be taken when removing heavy-duty protection systems to avoid damaging the playing surface. Plywood and tarps should be cleaned of all debris after removal from the pitch, thereby reducing the chance of wood splinters onto the playing surface.

It is essential that the spikes, anchors, supporting columns etc. are NOT placed directly onto the pitch surface and vital that they are not embedded or driven into the playing surface.

NOTE: Emergency vehicles can be safely driven on your FieldTurf pitch.

SNOW ON YOUR FIELD

Snow and ice have some effect on the playing performance of your FieldTurf system, therefore it is advisable not to use the surface under such extreme conditions and snow must be removed prior to any planned use of the pitch. A snow blower may be used, however, to avoid damaging the pitch surface, a 1.5m wide blower fitted to a medium sized tractor is recommended.

A standard snow plough attached to a vehicle no more than 750 kg and with a wheel pressure of 0,75 kgf/cm² in weight may also be used providing the blade of the plough has been fitted with rubber edging to avoid damaging the playing surface. The snow can then be loaded into lorries using mobile loaders. Piled up snow may be removed from the playing surface by using a front loader vehicle, starting in the midfield and moving the accumulation to the outer pitch edge.

A medium sized tractor may also be used with a snowplough attachment however as stated this should be fitted with a rubber blade either on the lower edge or wheels at each end of the blade to prevent contact between the metal and the playing surface. Residual snow may then be removed with a snow blower using the procedure outlined above. It is imperative NEVER to use wheels fitted with chains on a FieldTurf playing surface, and swivelling the wheels on a FieldTurf surface is expressly forbidden.

It is also possible to use a pvc hose or rubber slab under the snow plough's metal blade allowing only the hose to come into contact with the playing surface, however if a rubber blade has been used this alone will be sufficient. Select the appropriate hose diameter for your snowplough and cut or saw to size, fitting directly to the blade. It is advisable to attach a strap to the hose to keep it in place. We would advise not to attempt to clear snow from either frosty ground or from on top of packed snow.

We would suggest storing the snow removed from the playing surface in a clean area such as a car park to allow the infill to be recovered once the snow has melted and then restored to the playing surface.

With snow removal, a quantity of infill will also be removed. After the snow has melted, the infill in the field area has to be topped up and any infill removed with the snow and deposited elsewhere will have to be cleared after the thaw.

FAQ's

1. **What should I do if static electricity occurs on a FieldTurf pitch?**

   Static electricity may appear on the pitch surface during high temperatures, within a dry climate or when exposed to excessive friction. Applying water, either directly or utilizing rainwater or dew to the affected area will eliminate the static electricity.

2. **How is a FieldTurf surface drained?**

   FieldTurf pitches are designed to behave as a permeable system. The pitch drains naturally provided that associated infrastructure ensures an increasing permeability and that drainage manholes are regularly maintained. Slow or insufficient drainage can be caused by a wide variety of factors, which might include a poor drain base design, incorrect drain base materials or construction techniques, inadequate infrastructure and other outside factors.

   If these factors have been ruled out or do not seem to be a likely contributing factor, it is possible that the slow drainage is a result of surface tension – a natural phenomenon common in the fabric, carpet and outdoor flooring industry. Surface tension is especially common on recently completed pitches and in most cases, the problem resolves itself naturally over the 6-week break-in period as the pitch is played on. In rare cases, the pitch could be treated with a surfactant and/or degreasing agent to enhance water penetration and eliminate surface tension.

   It should also be noted that some "puddling" or "ponding" is perfectly normal in certain circumstances. In almost all cases, however, the pitch should be clear of standing water once the precipitation has stopped for approximately 30 minutes.

3. **How do climate conditions affect the FieldTurf playing surface?**

   The playing surface is designed to withstand variable weather conditions, including snow, ice and salt water. However, it is essential to clean the ground periodically to remove any deposit of salt water left on the surface.

4. **What is meant by 'normal' pitch use?**

   Normal, standard use means less than 1500 hours a year of regular playing time for the sports covered by the warranty. We understand normal playing time and ordinary use as a reasonable number of users or participants (22 players for hockey). This excludes repeated training sessions and particularly intensive exercises on the same part of the pitch (including goalmouths and semi-circle).

5. **What is meant by UV Stability?**

   The product will be stable to light fading with the maximum fading of the product during the warranty period not exceeding 15% of colour loss based upon an acceptable grey scale. The warranty does not cover slight variations or gradations of colour within the product or visual distortion.

6. **Can lines be painted on a FieldTurf pitch?**

   Before painting onto your pitch it is important that you make contact with FieldTurf's Customer Service department who will be happy to provide guidance on recommended suppliers, specific paint types, appropriate machinery that should be used and the paint machine settings.

   It should be noted that paint might build up over time and affect adhesion and pitch aesthetics in the affected areas. It is therefore recommended that paint is removed after approximately every 5 applications prior to reapplying and it is also appropriate to check the infill below the painted surface for associated contamination.

   The area should be flushed through if necessary and, if the infill is found to be completely contaminated with paint, subsequently removed and replaced using the aforementioned procedure.

7. **How can I check the ballroll?**

   The best way to measure the ballroll is using a ballramp.

8. **How can I check the infill-levels?**

   The best way to measure the infill levels is using the Floortester.

APPENDIX A - MAINTENANCE LOG

FieldTurf®
A Tarkett Sports Company

FIELD NAME ....

NAME ....

TEL No. ....

Coupon must be completed and sent, at least once a year to your customer service contact. Your fieldturf representative/customer service can provide more coupons on request

WEEK ....

ACTIVITY	REMARKS		MON	TUE	WED	THU	FRI
Cleaning the surface							
Decompacting /brushing							
Check & Top up infill at penalty points etc.							
Inspection of line markings and seams							
Measuring infill level	Av. Infill Height	mm					
Measuring ball roll	Av. Ballroll	m					
Snow removal							

WEEK ....

ACTIVITY	REMARKS		MON	TUE	WED	THU	FRI
Cleaning the surface							
Decompacting /brushing							
Check & Top up infill at penalty points etc.							
Inspection of line markings and seams							
Measuring infill level	Av. Infill Height	mm					
Measuring ball roll	Av. Ballroll	m					
Snow removal							

WEEK ....

ACTIVITY	REMARKS		MON	TUE	WED	THU	FRI
Cleaning the surface							
Decompacting /brushing							
Check & Top up infill at penalty points etc.							
Inspection of line markings and seams							
Measuring infill level	Av. Infill Height	mm					
Measuring ball roll	Av. Ballroll	m					
Snow removal							

WEEK ....

ACTIVITY	REMARKS		MON	TUE	WED	THU	FRI
Cleaning the surface							
Decompacting /brushing							
Check & Top up infill at penalty points etc.							
Inspection of line markings and seams							
Measuring infill level	Av. Infill Height	mm					
Measuring ball roll	Av. Ballroll	m					
Snow removal							

WEEK ....

ACTIVITY	REMARKS		MON	TUE	WED	THU	FRI
Cleaning the surface							
Decompacting /brushing							
Check & Top up infill at penalty points etc.							
Inspection of line markings and seams							
Measuring infill level	Av. Infill Height	mm					
Measuring ball roll	Av. Ballroll	m					
Snow removal							

ATTACHMENT 2 - ITEM 15

APPENDIX B - CLEANING SCHEDULE

RANDOM DRIVIE DIRECTIONS

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PLAY
TO
WIN
MAINTAIN
TO PLAY
FieldTurf®
A Tarkett Sports Company

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