

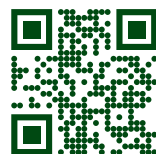


 TOUCH TO ACCESS

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www.impulsegarss.com



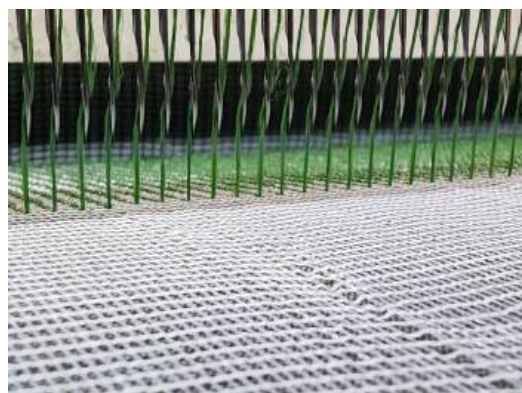
Green That Captivates,
Quality That Lasts.

ARTIFICIAL GRASS
Collection

Impulse Grass



Impulse Polyplast is a leading manufacturer of high-quality artificial grasses, offering durable, eco-friendly, and low-maintenance turf solutions for landscaping, sports fields, and decorative applications. Designed to replicate the natural look and feel of real grass, our products combine innovation with aesthetics to create green spaces that last.



Advanced Equipment

Every achievement reflects the dedication and hard work that Impulse Polyplast puts into the production and research of artificial grass. We remain committed to continually enhancing our manufacturing processes and upgrading our equipment to deliver even better products and services to our customers.

1,000,000 m²
Annual Output

20+
Grass Fiber Types

5
Particle Mixing
Machine

2
Multifilament Yarn
Machine

1
Turfting Machine

2
Twisting Machine

1
Drying
Machine

12
Curly
Machine

What make **IMPULSE** different?



STANDARDIZED PRODUCTION



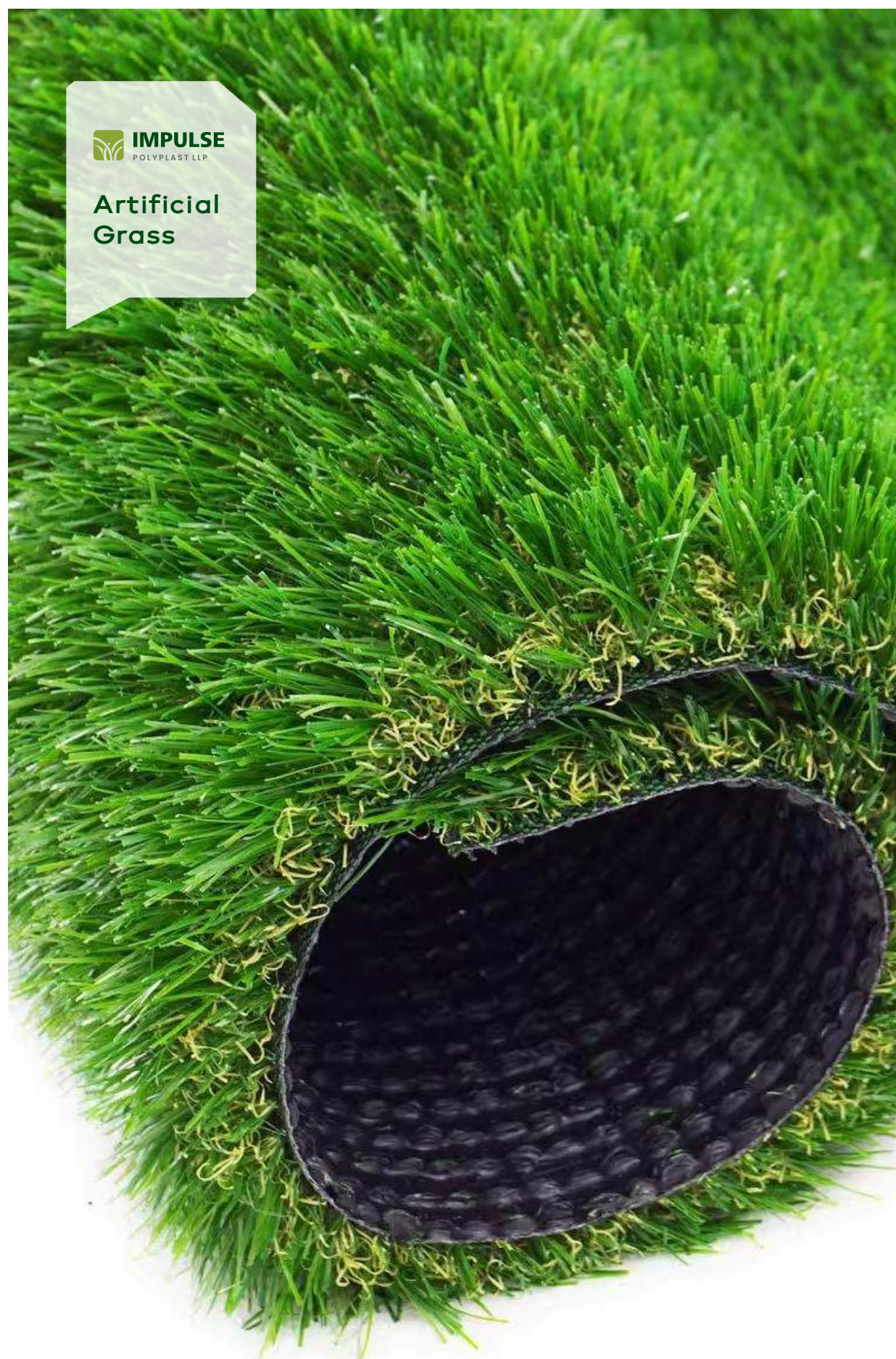
DIVERSIFIED PRODUCTS



EFFICIENT SERVICES

Research & Development

In order to give our consumers better products and contribute to the sustainable growth of society and the environment, we constantly view research and development of new technologies as an endless source of inspiration. Our recently created coating is affordable, long-lasting, and environmentally friendly. It has strong turflock, good water and air permeability, and is recyclable. It also requires little money for transportation and is lightweight. Both domestic and foreign markets have responded favorably to its excellent marketing.



Artificial Grass

Geographical position, harsh environmental conditions, and economic circumstances affect many nations worldwide. The installation and upkeep of natural grass are further complicated by the requirement to construct a sizable number of courts with ceilings and other amenities. Artificial synthetic grass stands out in these circumstances because of its many benefits.

Artificial grass, which circumvents the inherent drawbacks of natural grass, is often composed of PE, PP, PA (nylon) yarns, or synthetic fibers of PE and PP. With time, artificial grass technology advances to a point where it can precisely match the technical specifications of professional sports events on ground surfaces and several indicators approach those of natural grass. These days, it is also extensively utilized in both business and residential settings.

Features



**NATURAL
LOOKING**



**HIGH QUALITY AND
COST-EFFECTIVE**



**HIGH SURFACE
EVENNESS**



**UV
RESISTANT**

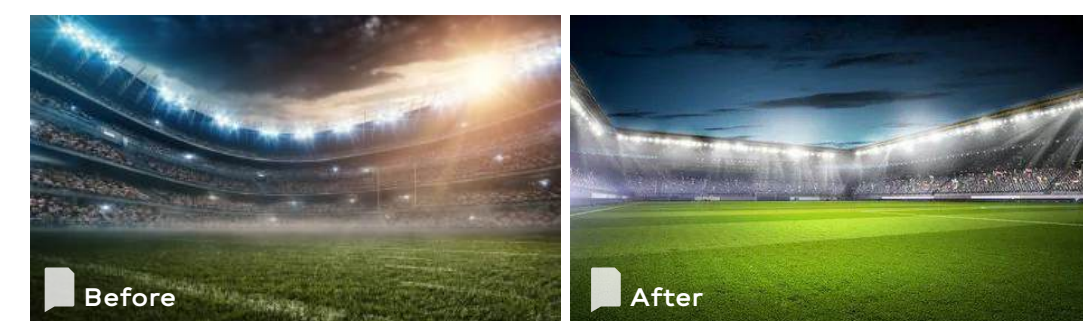


**WEATHER
RESISTANT**



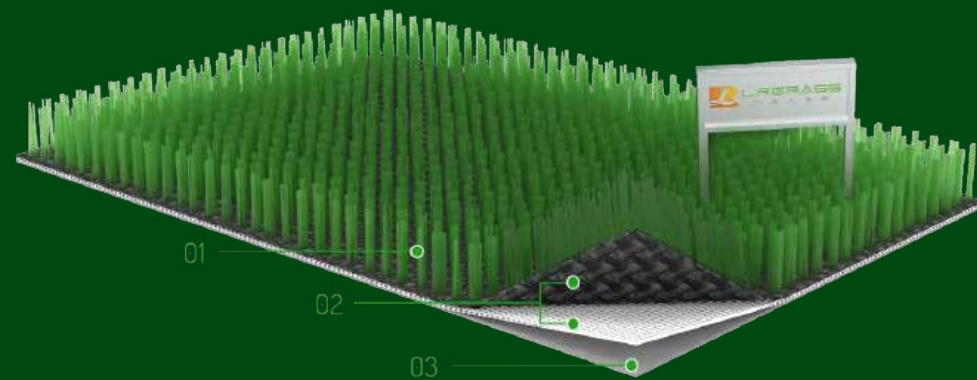
**EASY TO CLEAN
AND MAINTAIN**

Comparison before and after laying artificial grass



Structure

Artificial grass consists of grass fiber, backing and coating. We choose high quality grass fibers, aiming to bring users the exact same experience effect as natural grass. Backing made of different materials can meet various needs of customers to ensure the lifespan of artificial grass. We can offer both traditional coating, and independently developed recyclable coating and eco friendly coating. They not only play the role of securing the artificial grass, but also do no harm to the environment.



01. Grass Fiber

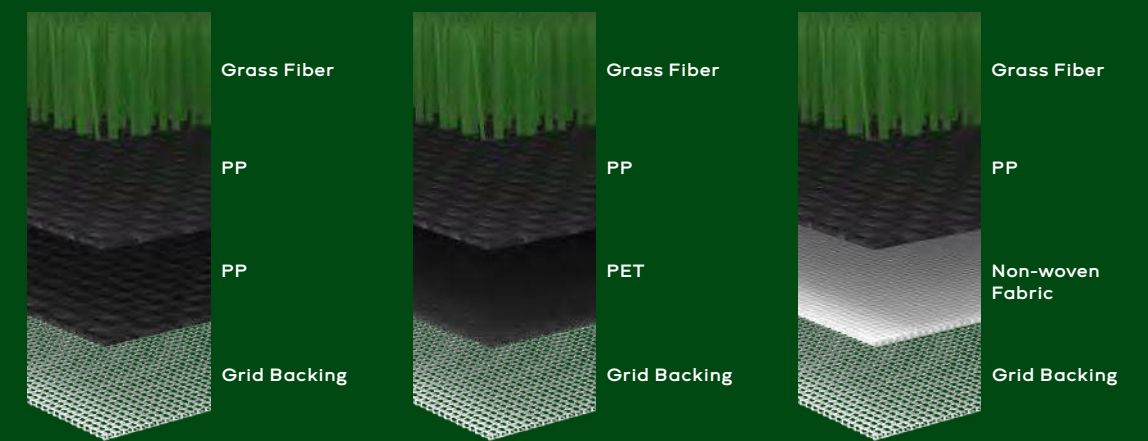
Monofilament Fiber features thin, high density and high degree of over all simulation. Its structure is similar to natural grass. It has a long lifespan and better wear resistance than fibrillated grass fibers and is mainly used in sports venues.



C-Shape Blade

02. Backing

It is generally a triple-layer structure and is the material that sewn on the artificial grass plastic fibers. It features little shrinkage, high tensile, non - deformation, UV-resistant, ant-aging and smooth surface and ensures the lifespan of artificial turf.

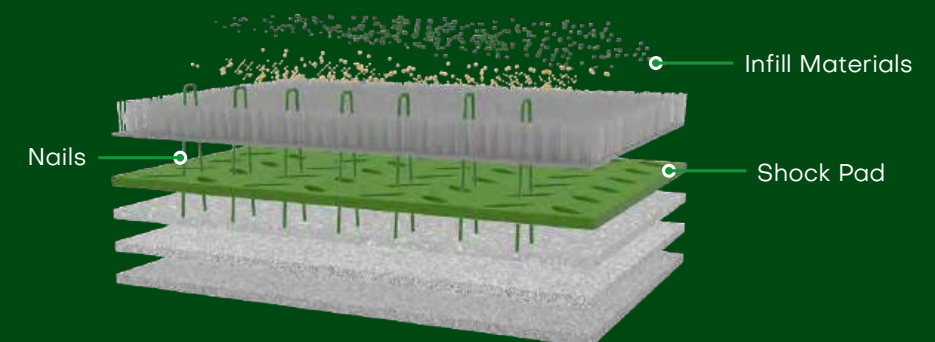


03. Coating

Backing glue is a material necessary for fixing artificial grass. The two most popular coating materials are styrene butadiene rubber (SBR) and polyurethane (PU). PU offers good coating effect but very effective. There is also a new product - recyclable non-adhesive PRT.

Components

Artificial grass laying components include infills, shock pads and nails. Infills are a key part of the artificial turf system as it ensures grass fibers remain upright like natural grass. Shock pads get inserted between the artificial grass and the base as a shock absorbing layer, and possess an elasticity and cushioning effect. Nails are used in artificial grass installation for fixing and are also known as the adhesive that holds the whole structure of artificial grass together.



Artificial Grass
Application

Artificial grass from **Impulse Polyplast** finds versatile applications across various sectors due to its durability, low maintenance, and year-round greenery. In residential settings, it is ideal for lawns, balconies, terraces, rooftop gardens, and pet areas. Commercial spaces like hotels, offices, and malls use it for landscaping and decorative purposes. In the sports and recreation industry, it serves as an excellent surface for football fields, cricket grounds, tennis courts, and golf courses. Educational institutions and playgrounds benefit from its safety and resilience, while public and urban spaces use it in parks, medians, and event venues. Additionally, artificial grass is widely used in creative applications such as indoor decor, exhibitions, wall claddings, and vertical gardens, offering a lush, natural look in any environment.



 **Residential Turf**



 **Cricket Turf**



 **Pet Turf**



 **Artificial Grass Wall**



 **Landscape Turf**



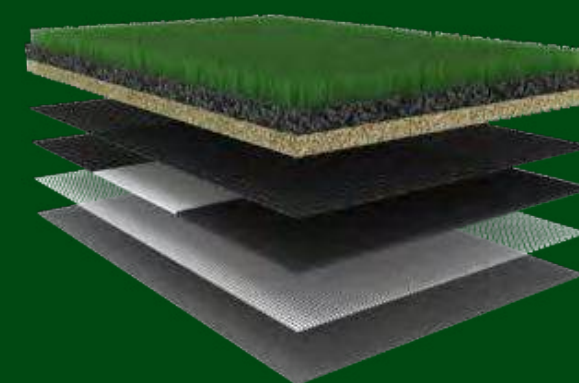
Requirements

- Grass fiber hardness**
Hard, wear-resistant, good air permeability and water permeability.
- Grass fiber structure**
Wear and tear breakage shall be prevented from affecting the athletes' safety.
- Pile height**
35mm
- Grass fiber weight**
5700 DTEX and above
- Flatness**
The cricket non-directionally rolls on artificial turf.

Recommendations

Cricket

Artificial Turf Structure



Height
35mm

Gauge
3" | 8"

DTEX
5700-6000

Density
1500-25200

Color  

Backing
Pp + Grid Backing +
SBR LATEX

Backing
Eco-friendly, recyclable coating
Recyclable non-adhesive coating
PU coating
SBR coating

Landscape Turf

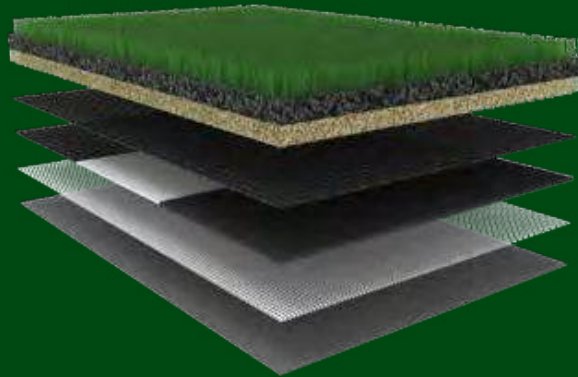
Landscape artificial turf may be installed in outdoor spaces anywhere and is becoming more and more popular among users because of its attractive appearance and low maintenance requirements. Due to mud turf caused by rain or wear, natural grass may result in ugly walkways.

Artificial grass, on the other hand, can tolerate heavy foot traffic, children's play, and harsh weather. It also has good UV resistance, won't shade from sun exposure, and can satisfy people's year-round recreational needs.

Recommendations

Landscape

Artificial Turf Structure



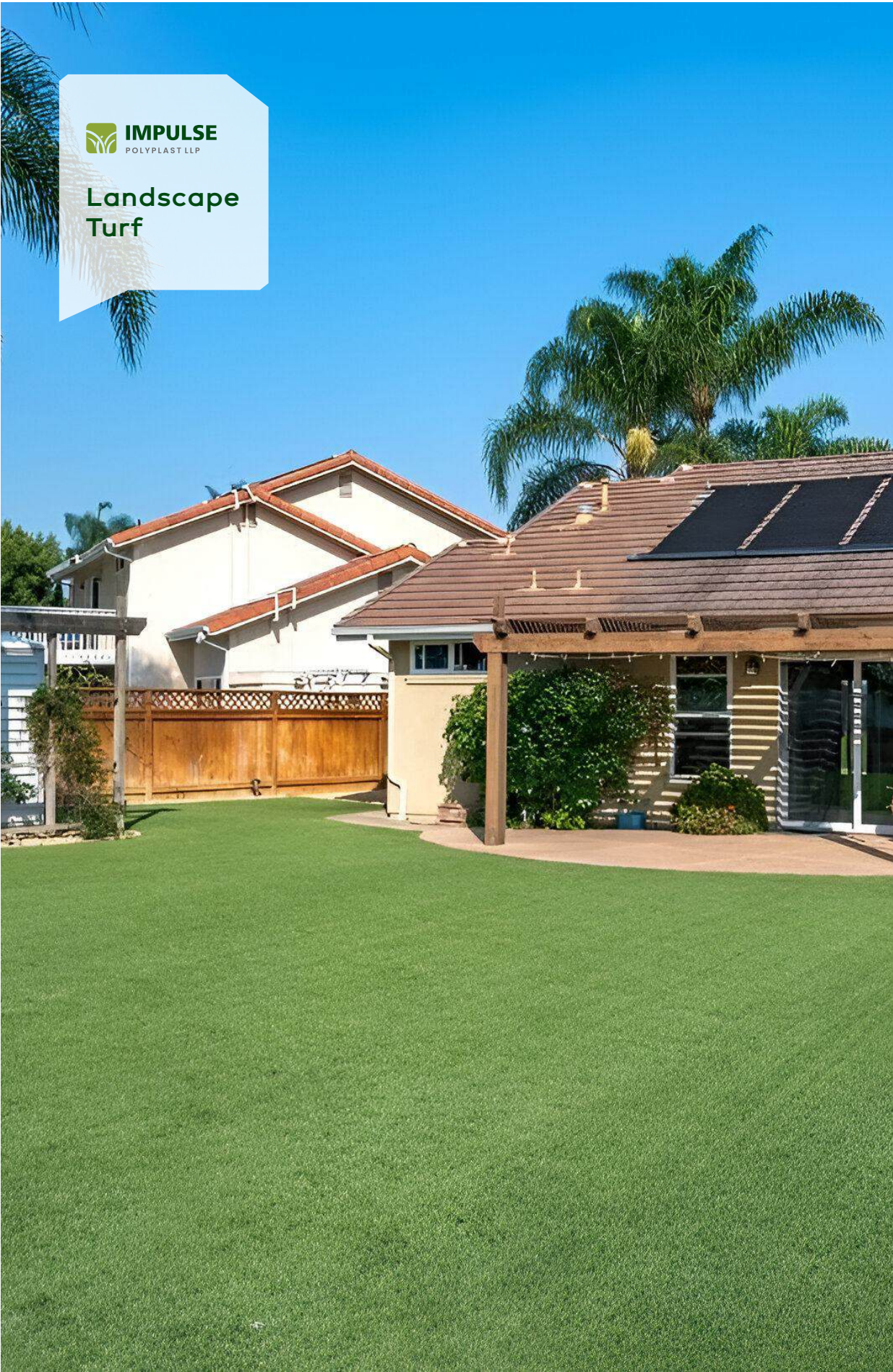
Height
25-45mm

Gauge
3" | 8"

DTEX
5700-6000






Density
1500-25200

Color



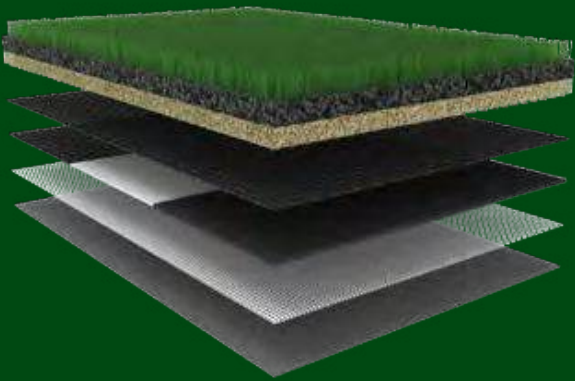


Requirements

-  **Grass fiber material**
Soft PE & PP
-  **Grass fiber structure**
A combination of monofilament and curly fibers is provided to enhance the softness of artificial turf.
-  **Pile height**
25-45mm
-  **Grass fiber weight**
5700 DTEX and above
-  **Additive**
It shall be resistant to bacteria and static electricity to ensure the skin is not damaged because of contact.

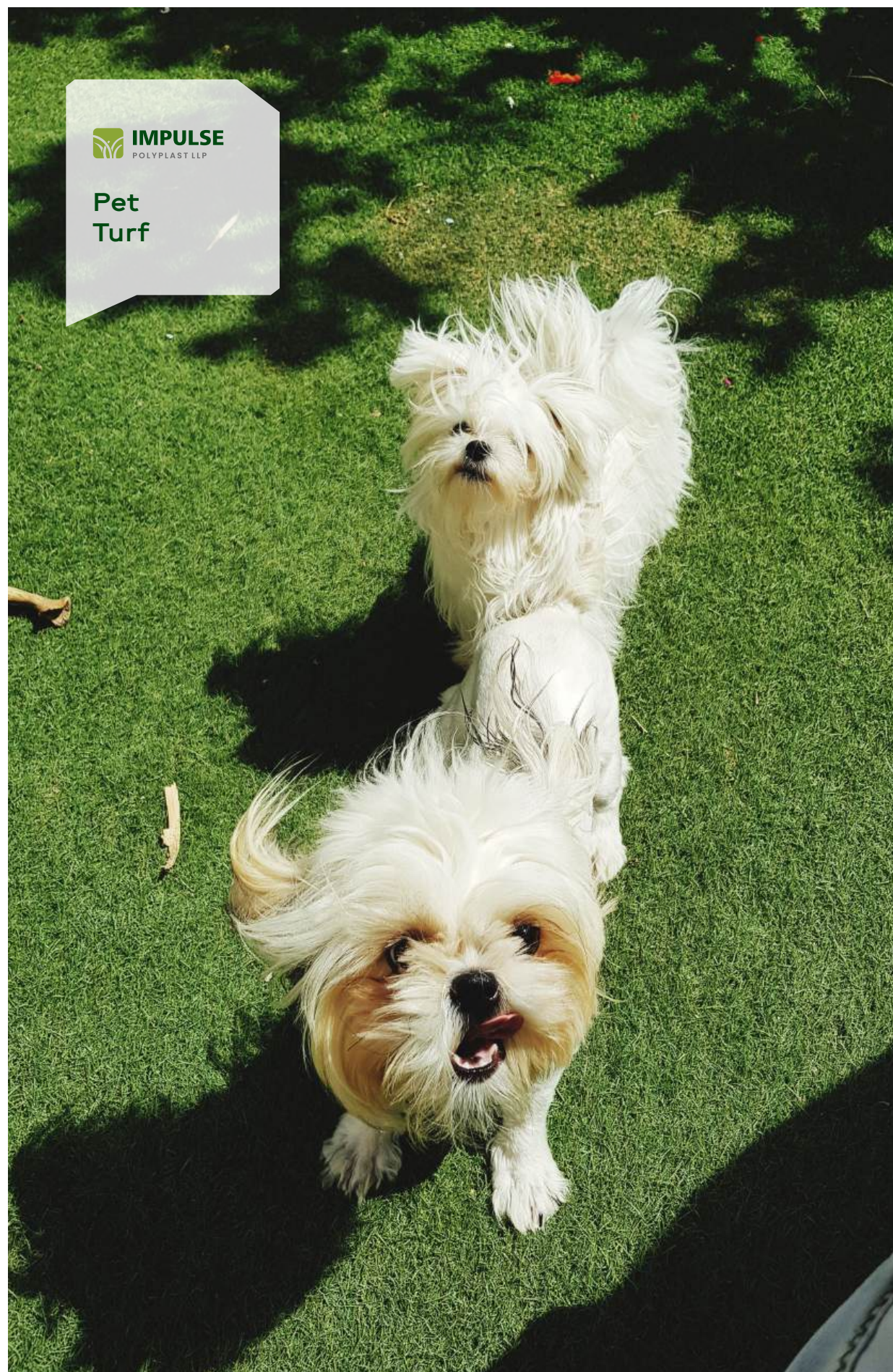
Recommendations

Residential Landscape
Artificial Turf Structure








- Height**
25-45mm
- Gauge**
3" | 8"
- DTEX**
5700-6000
- Dencity**
1500-25200
- Color**  

- Backing**
Pp + Grid Backing +
SBR LATEX
- Backing**
Eco-friendly, recyclable coating
Recyclable non-adhesive coating
PU coating
SBR coating



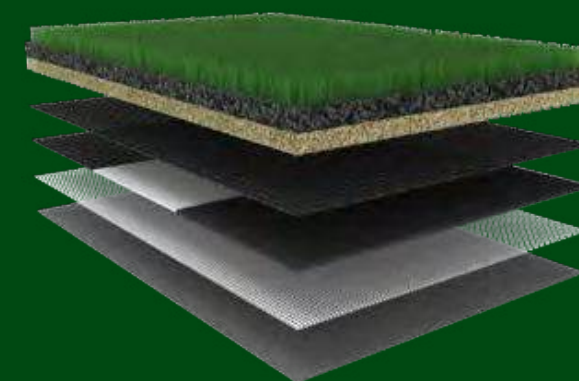
Requirements

-  **Grass fiber material**
Soft PE & PP
-  **Grass fiber structure**
A combination of straight grass fibers and thatch increases the softness of the turf.
-  **Pile height**
Short grass fiber ensures users can clean solid wastes quickly
-  **Infill**
Non-toxic, anti-bacteria infills are used to prevent the accumulation of bacteria.
-  **Backing**
Good water permeability backing ensures pet urine completely drains out.

Recommendations

Pet turf with monofilament grass fiber & thatch

Artificial Turf Structure



Height
25-45mm

Gauge
3" | 8"

DTEX
5700-6000

Density
1500-25200

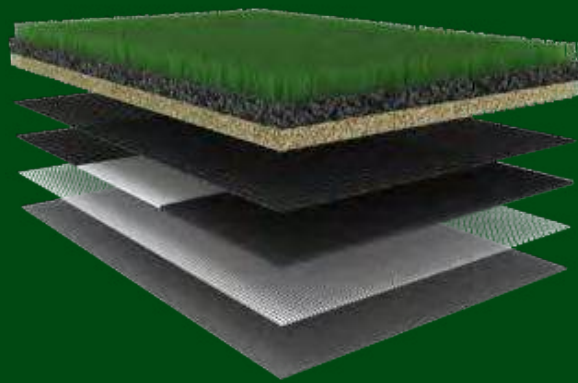
Color  

Backing
Pp + Grid Backing +
SBR LATEX

Backing
Eco-friendly, recyclable coating
Recyclable non-adhesive coating
PU coating
SBR coating

Pet artificial turf structure with thatch

Artificial Turf Structure



Height
25-45mm

Gauge
3" | 8"

DTEX
5700-6000

Density
1500-25200

Color

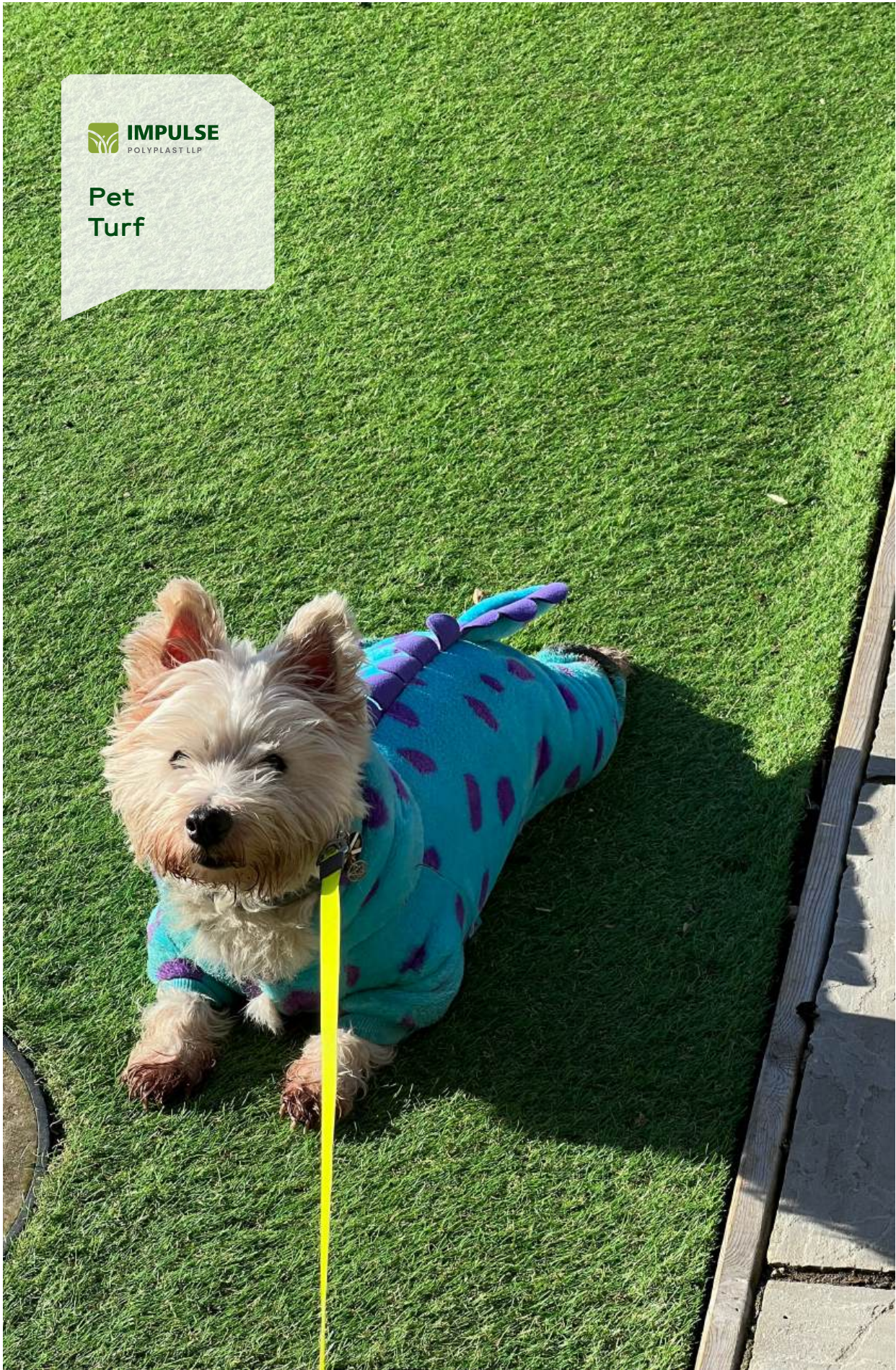


Backing

Pp + Grid Backing +
SBR LATEX

Backing

Eco-friendly, recyclable coating
Recyclable non-adhesive coating
PU coating
SBR coating





Playground Turf

Requirements



Grass fiber material

PE and PP ensures the safety of recreational activities.



Grass fiber structure

A combination of straight grass fibers and thatch increases the softness of the turf.



Pile height

25mm - 45mm



Additive

It shall be resistant to UV, bacteria and static electricity to ensure the skin is not damaged because of contact.



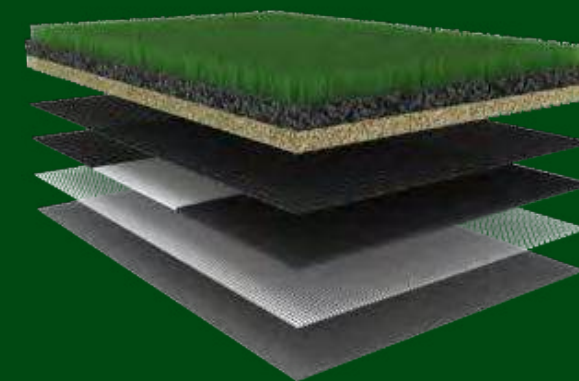
Backing

Good water permeability backing ensures pet urine completely drains out.

Recommendations

Playground turf with monofilament grass fiber & thatch

Artificial Turf Structure



Height
25-45mm

Gauge
3" | 8"

DTEX
5700-6000

Density
1500-25200

Color



Backing

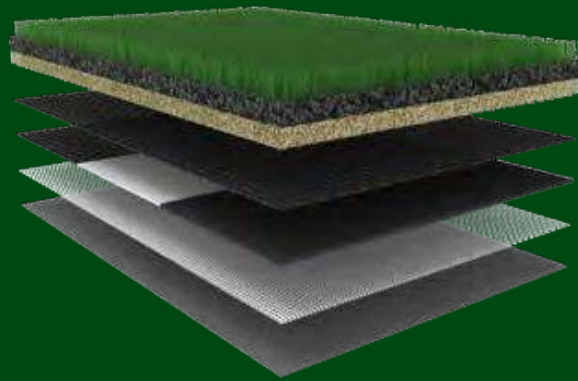
Pp + Grid Backing +
SBR LATEX

Backing

Eco-friendly, recyclable coating
Recyclable non-adhesive coating
PU coating
SBR coating

Playground artificial turf structure with thatch

Artificial Turf Structure



Height
25-45mm

Gauge
3" | 8"

DTEX
5700-6000

Density
1500-25200

Color



Backing

Pp + Grid Backing +
SBR LATEX

Backing

Eco-friendly, recyclable coating
Recyclable non-adhesive coating
PU coating
SBR coating





Artificial wall turf

Requirements



Grass fiber material

PP and PE grass fibers are provided to ensure it will do no harm to the environment.



Grass fiber structure

A combination of monofilament fiber and thatch is provided to increase the softness of artificial turf.



Pile height

25mm - 45mm



Grass fiber weight

11000 DTEX and above



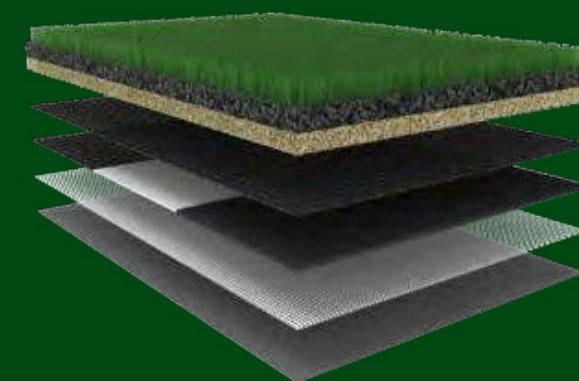
Simulation performance

Its performance and appearance are similar to natural grass.

Recommendations

Artificial Wall Grass

Wall Structure



Height
25-45mm

Gauge
3" | 8"

DTEX
5700-6000

Density
1500-25200

Color



Backing

Pp + Grid Backing +
SBR LATEX

Backing

Eco-friendly, recyclable coating
Recyclable non-adhesive coating
PU coating
SBR coating

Technology

LRGrss artificial grass technology includes artificial grass terminology & process, design plans, field construction and maintenance, aiming to provide necessary technical reference for our customers from the very beginning of artificial grass selection to final artificial grass installation. In this way, we provide our customers with one-stop artificial grass solutions and improve users' experience.

Terminology

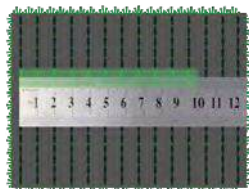


DTEX:
The weight of artificial grass fiber in 10000 m. Artificial grass DTEX includes 6300, 7400, 8000, 8800, 9500, 10000, 11000, etc. The larger the DETX, the heavier the weight, the better the quality and higher wear-resistance.



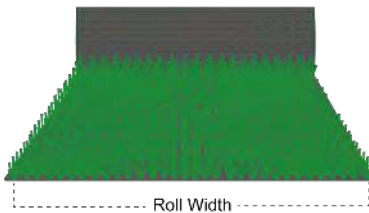
Stitch rate

Let's take the stitch rate of artificial grass in 100 cm as an example. Measure the stitch rate of artificial grass in 10 cm as a, and the stitch rate in 100 cm is A=10×a.



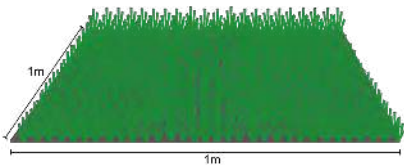
Gauge

The distance between two adjacent artificial grass yarns, expressed in inch. Gauge B= 100 mm/spaces b/25.4 mm



Roll Width

The unfolded artificial grass roll width. Generally, 11-man football field is 4 m in width, and 5-man football field is 2m in width.

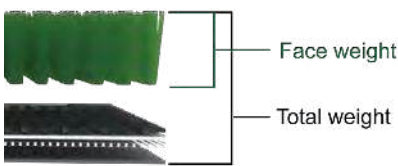


Density

Number of tufts per unit area, expressed in tufts/m2

Density=[1000/(B×25.4)]×A

For example: A=10×a=10×17=170
B=100mm/b/25.4=100/10.5/25.4 3/8"
Density=[1000/(3/8×25.4)]×170 17850/m2



Face Weight

The weight of artificial grass fiber per square yard, expressed in ounces. It refers to the weight of grass fiber only, excluding the backing and coating materials. It is one (but not the only) characteristic that impacts performance and durability. Generally, the higher the face weight, the longer and denser the artificial grass will be. It not only creates a lusher, more well-grown appearance, but also offers a softer underfoot when you walk on it. So, it is seen as a key indicator of artificial grass quality based on density.

Thatch Production Process

Artificial grass thatch has elasticity and looks similarly to natural grass. It generally works with monofilament fibers to play the role of support. Besides, it also increases the turf density, makes it look lusher and more realistic. Thatch production process is divided into ATY and KDK production process. LRGrass use both ATY and KDK to produce artificial grass thatch to offer more options for customers and meet the demands of different applications.

KDK & ATY	KDK	ATY
Process		
Fullness & Completeness	★★★★★	★★★★
Elasticity	★★★★★	★★★★
Tufting Time	Not exceeding 3 weeks.	No time limits.
Shape Durability	6 years	3 years
Application Field	High-end sports field & landscaping lawns	Common sports fields

Artificial Grass Production Process

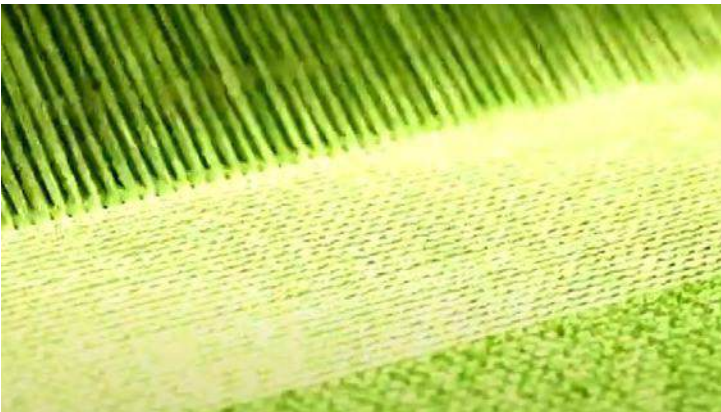
Tufting

Tufting is the most common artificial grass production process. The principle of tufting machine is similar to a sewing machine. It tufts grass fibers into the backing through tufting needles, forming a U-shape tuft and making grass fiber arrangement uniform. Needle moving mode. It either moves laterally or along z-direction. When needles move along z-direction, it makes grass fibers distributed evenly and offers high grass fiber coating adhesion.



Weaving

Weaving artificial grass surface is a process that weaves the backing and grass fibers together to form a dense artificial grass surface. This artificial grass surface is highly stable and grass fibers has no fixed direction.



Needling

Multi-layer fibers are needled together to form grass fibers. Compared with other artificial grass, needle punched artificial grass surface offers highest porosity, good wear-resistance and least sand content. So, it also requires a lower maintenance cost.



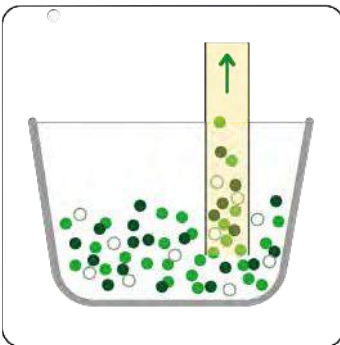
Production Flow

Stringent artificial grass production flow is the basis for producing high quality artificial grass. From raw material processing to final mechanical rolling, LRGrass always carries out production in strict accordance with relevant standards to ensure that we can provide best artificial grass for our customers.

Main Production Procedures

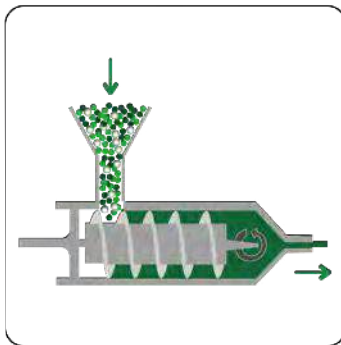
Raw Material Processing

Mix the color masterbatch in a certain proportion and pump the color master batch to the extruder.



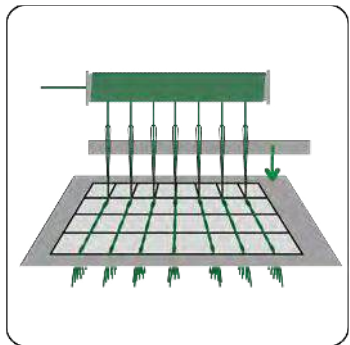
Grass Fiber Extrusion

Mix the color masterbatch in a certain proportion and pump the color master batch to the extruder.



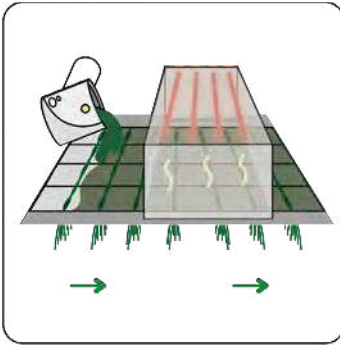
Tufting

Mix the color masterbatch in a certain proportion and pump the color master batch to the extruder.



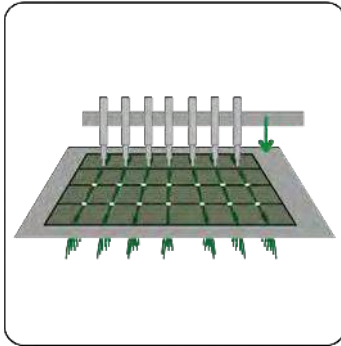
Coating & Drying

Mix the color masterbatch in a certain proportion and pump the color master batch to the extruder.



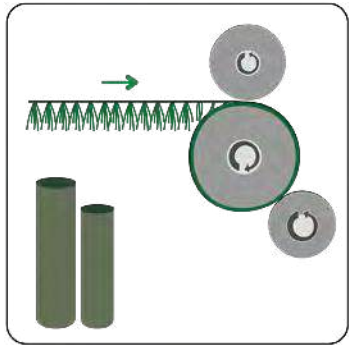
Punching

Mix the color masterbatch in a certain proportion and pump the color master batch to the extruder.



Mechanical Rolling

Mix the color masterbatch in a certain proportion and pump the color master batch to the extruder.

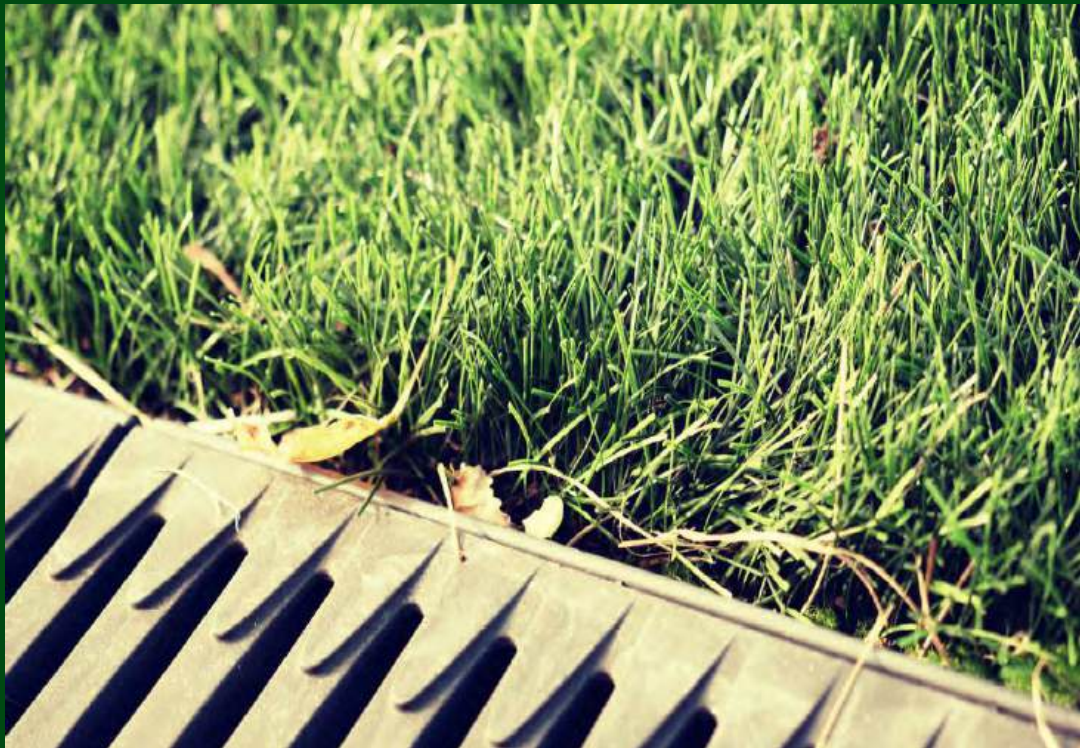


Artificial Grass Drainage Systems

Our artificial grass, no matter traditional coating or new recyclable coating, has good drainage effect. Excess water can be drained out smoothly. It ensures the dryness of the artificial grass surface and keeps artificial grass in good conditions.

However, if the drainage facilities are not perfect, it will cause water to accumulate in the base layer and cannot be drained out smoothly, leading to the artificial grass base caking and uneven, the whole grass wet and other problems. In addition, it will greatly reduce the service life and field performance of artificial turf, and high maintenance costs in the late stage.

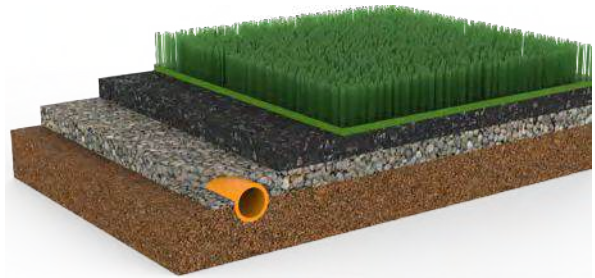
It is vital to make out a proper and efficient artificial grass drainage system before laying. A proper drainage system will keep the artificial grass surface hygienic as well as safe for use, and to a certain extent, reduce maintenance costs.



Artificial Grass Drainage Systems

Based on previous experience, there are two common drainage systems. You can choose the appropriate drainage system according to different actual conditions to achieve the best drainage effect.

Finger System



Precautions

Base materials : Materials for base construction should be inspected before use.

Base appearance : The surface shall be uniform, solid and flawless; the seam shall be smooth without stagnant water.

Base drainage : 120 minutes after raining, water not greater than 4 mm is permitted.

Thickness tolerance : Allowable deviation of thickness is $\pm 10\%$.

Suitable for It is suitable for artificial grass laid on flat areas.

Base construction : It is composed of 3 layers, artificial grass carpet layer, filler layer and ground cover. Once the water drains through the carpeting and filler layer, it goes into the ground cover added with gravels or drain pipes to facilitate the drainage.

Channel Drainage



Precautions

Base materials : Materials for base construction should be inspected before use.

Base appearance : The surface shall be uniform, solid and flawless; the seam shall be smooth without stagnant water.

Base drainage : 120 minutes after raining, water not greater than 4 mm is permitted.

Thickness tolerance : Allowable deviation of thickness is $\pm 10\%$.

Suitable for suitable for artificial grass laid on graded or sloped areas.

Base construction : Before installing artificial grass, the ground is smoothed out to remove valleys and dips that may accumulate water. And then create small, intricate channels that will drain water towards the turf's lowest corner. The water then flows towards drainage ditches, down a drain or straight into the street.

Artificial Grass Installation

Get proper tools well prepared to ensure the artificial grass installation goes smoothly. It not only reduces maintenance costs, but also extends the service life of artificial grass.

Tools Required

Easy to find tools

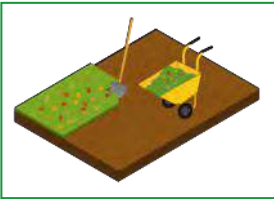
- Hammer, rake, shovel and tape measure.
- Utility knife.
- Artificial grass joining tape

Special tools

- Power blower
- Compactor
- Excavator

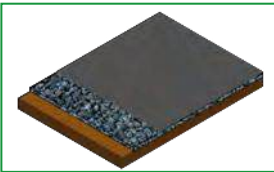
Installation Process

1. Remove the existing turf



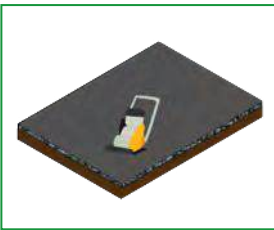
Remove any rocks or sprinklers that may affect the artificial grass installation. Dig to a depth of 70mm to 80 mm. This is going to be the bed where you'll lay out the artificial turf.

2. Lay the base layer



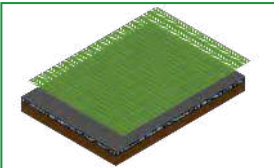
Lay the soil on the existing ground and then pave a layer of hydrophobic gravels and then lay a layer of asphalt or cement.

3. Compact the base layer



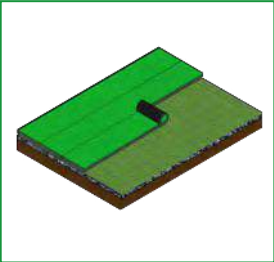
When the base layer laying is finished, compact the base with a compactor to create a perfect base for artificial grass installation. The perfect depth of a sub-base for artificial grass is around 15 mm to 20 mm.

4. Lay the shock pad



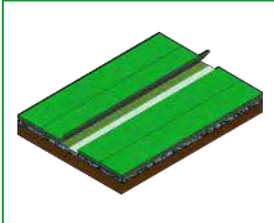
Lay the shock pad to provide users with good elasticity and cushioning effect. It also helps to extend the lifespan of artificial grass.

5. Put the artificial turf in place



Make sure always lay artificial grass pieces in the same direction. It is recommended that artificial turf is put in place for at least 3 hours to prevent artificial turf from wrinkling.

6. Install the joining tape



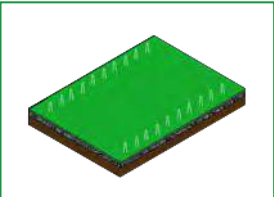
Put the turf tape at the seams between artificial grass pieces to make sure the artificial grass is connected as a whole and firmly secured.

7. Trim the artificial turf edges



Use a sharp utility knife to cut and trim your artificial turf to ensure the turf edges are cut neatly and meet your desired shape.

8. Secure the artificial turf edges



Place a nail every 25 cm to 30 cm, secure the artificial turf and make sure your artificial turf stays in place.

9. Lay the infill, brush artificial turf



Lay the infill on artificial turf and use a rake to gently spread the sand throughout the artificial turf. If the artificial turf does not need infill, brush the artificial turf to keep grass fibers upright.

Artificial Grass Maintenance

After long term use, the performance and safety factor of artificial grass may be reduced. Due to the abrasive nature of artificial infill substances, all grass fibers disintegrate over time, so professional artificial grass maintenance is required.

Proper maintenance can extend the lifespan of your artificial grass by more than 30% while ensuring safe and consistent use. Additionally, your costs will significantly reduced by carrying out annual and preventative maintenance practices

Basic Requirements

- Keep the field clean and control the traffic flow.
- Reduce cleaning frequency and clean it at high temperatures.
- Set enough trash bins.
- Repair minor damage timely.



Maintaenance

- Check if the seam joints are loose and if the turf bottom is damaged, teared or burnt carefully. Major repair shall inform of the installation company timely.
- Heavy rain washing and sweeping will cause a small amount of infill losing. Areas that need to be refilled can be sprayed with some silica sand, crumb rubber and completely refill into the turf.

Prohibitions

No smoking or fireworks is allowed on the turf. No 7 mm spiked shoes is allowed to run on the turf. No cars, motorcycles and other vehicles are allowed to drive on the turf. No chemical cleaners, herbicides or pesticides are allowed. No heavy objects is allowed to be put on the turf for a long time. No intentionally set off boundary is allowed on the turf. No shot put, javelin, discus or other falling sports is allowed on the turf. No powerful jet guns exceeding 300 PSI is allowed, as it may damage the turf.





IMPULSE

POLYPLAST LLP