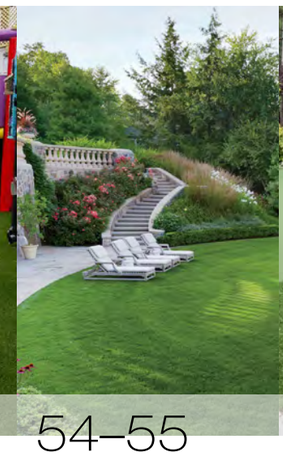
LRGRASS®
领瑞人造草

PRODUCTS & APPLICATIONS
ARTIFICIAL GRASS

We offer high quality artificial grass products, applications and technical support to help our customers know better about artificial grass

ARTIFICIAL GRASS

CONTENT

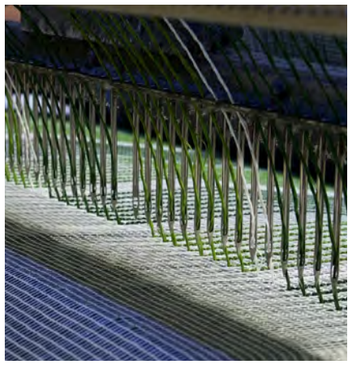


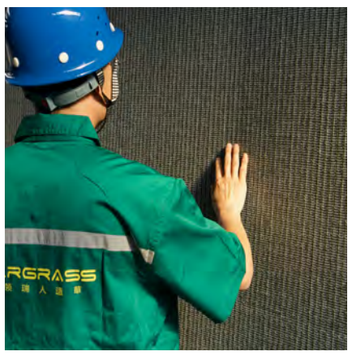
With the registered trademark of LRGrass, Hengshui Sewego New Material Technology Co., Ltd. is a modern enterprise integrating R&D, production, sales, construction and foreign trade of artificial grass. We have rich experience in artificial grass production, master advanced production process and technology, and introduce a complete set of testing devices to ensure all our products are qualified.

We are committed to the development and production of artificial grass, aiming to provide better sports and life experience for our customers.

Besides, we offer one-stop artificial grass solutions for every customers, including professional product consulting, field design, product customization, installation guidance, and technical support services to make our customers free from worries.

LR Grass





Advanced Equipment

Every figure marks the effort and devotion LRGrass made in the process of artificial grass production and R&D. We will also continue to improve our production process and production equipment to provide our customers with better services.

- 8,000,000 M² Annual Output
- 20+ Grass Fiber Types
- 5 Particle Mixing Machines
- 10 Yarn Extruding Machines
- 15 Tufting Machines
- 5 Drilling Machines
- 5 Drying Machines
- 8 Rolling Machines

What Makes **LRGrass Different?**

Standardized Production

- Selected raw materials for good product quality.
- Excellent process ensures a long lifespan.
- Sold well and highly recognized by our customers.

Diversified Products

- A wide range of products for different applications.
- Superb customization services for special needs.
- Rapid delivery makes we seize every opportunity.

Efficient Services

- Senior technicians escort for artificial grass.
- Fast response solves problems promptly.
- Considerate services make your free from worries.

RESEARCH & DEVELOPMENT

We always take the new technology R&D as an inexhaustible driving force for our development, aiming to provide our customers with better products while making our own contribution to the sustainable development of the society and the environment. Our newly developed coating is economical, durable, and eco-friendly with good air permeability, water permeability, strong turflock and recyclability. Moreover, it is lightweight and requires low transportation costs. It has been successfully marketed to domestic and overseas markets and won high appreciation.

LRGRASS®
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ARTIFICIAL GRASS

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Many countries across the world are subject to geographical location, extreme natural conditions and their economic conditions. Moreover, a considerable number of natural grass courts must be added with ceilings and other facilities, which makes the laying and maintenance of natural grass become more difficult. Under such conditions, artificial synthetic grass stands out due to its great advantages.

Artificial grass is generally made of PE, PP, PA (nylon) yarns or synthetic fibers of PE and PP, overcomes the inherent disadvantages of natural grass. Over a long term of development, artificial grass technology becomes increasingly mature and many indicators get close to natural grass, and can perfectly meet all technical requirements of professional sports competitions on ground surface. Now it is also widely used in residential and commercial activities.

Features

Natural looking

It looks exactly real like natural grass.

High quality and cost-effective

We can offer high quality, cost-effective artificial grass solutions.

High surface evenness

If offers consistent ball rolling and rebound paths.

UV-resistant

It never shades color due to sun exposure.

Weather resistant

Suitable for all weather conditions.

Easy to clean and maintain

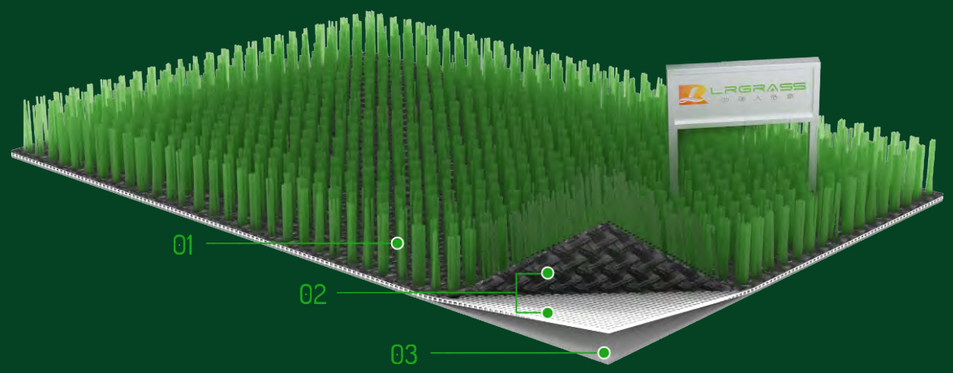
It is easy to maintain when compared with natural grass.

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

Monfilament fiber features thin, high density and high degree of overall 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.

Thatch

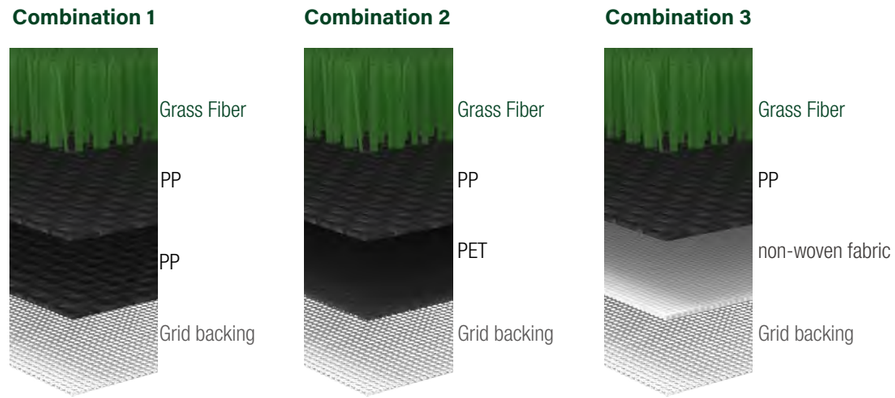
With good resilience and close to natural grass looking, it is mainly used as landscape turf. Mixed with monfilament fibers, it plays the role of support and enhances the lawn density, making the lawn denser and more vivid. Additionally, it also used in various sports pitches and works as golf turf, hockey turf, etc.

Fibrillated Fiber

Fibrillated fiber has a wide tape and limited applications. It is widely used in basketball and tennis sport fields.

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.

★★★★★

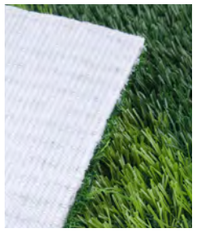
Eco-Friendly, Recyclable Coating

It is a new type of eco-friendly, recyclable coating with good air permeability, super water permeability, strong turflock, eco-friendly, recyclable. In addition, it is lightweight and requires a low transportation cost.

★★★

Polyurethane (PU) Coating

The performance of artificial grass with PU coating is very stable and will not expand even at high temperatures. It does not absorb water or liquids. Additionally, it is easy to cut, install and transport and unrecyclable.



★★★★

Recyclable Non-Adhesive PRT Coating

It is a new hot melt coating with excellent eco-friendly performance, super water permeability, strong turf and recycling property.

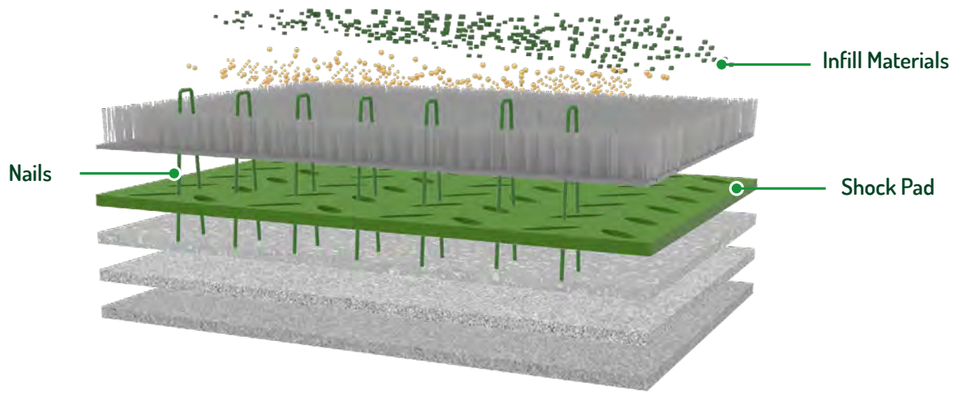
★★

Styrene Butadiene Rubber (SBR) Coating

SBR is a traditional coating material and is also very popular now. However, it is easy to peel off under extreme moisture conditions.

COMPONENTS

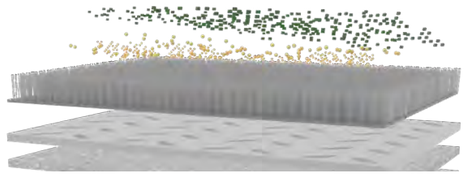
Artificial grass laying components include infills, shock pads and nails. Infills are a key part of the artificial turf system as it ensures grass fibers remain upright like natural grass. Shock pads get inserted between the artificial grass and the base as a shock absorbing layer, and possess an elasticity 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.



Infill Materials

Infill materials are a key part of the artificial turf system as it ensures grass fibers remain upright like natural grass. Meanwhile, it also ensures that the shoes have a good grip. Additionally, it can also act as a cushion and maximize its sliding characteristics to reduce the strain on muscles and joints. We offer a variety of infills for you to choose from. We can recommend the right infills to make our customers get a better experience effect from artificial grass.

- Act as a ballast to keep the turf weighted down and level
- Improve the resilience of turf backing.
- Help to extend the service life of artificial grass



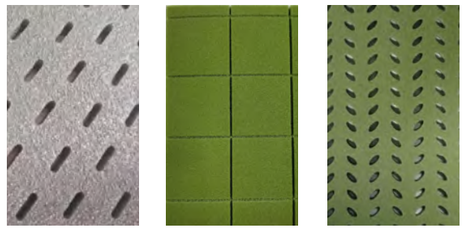
Silica sand infill | Crumb rubber infill | Silica sand & crumb rubber infill

TPE infill | EPDM infill | Organic infill | Coated silica sand infill

Shock Pad

Shock pads get inserted between the artificial grass and the base as a shock absorbing layer, and possess an elasticity and cushioning effect. As a necessary material for new eco-friendly turf, it solves turf drainage problem by punching or slotting process. High performance shock pads offer natural cushioning to reduce the wear of turf backing, extend the lifespan of artificial turf and improve the safety of players during playing sports.

- **Shock absorption.**
  Good shock absorption and resilience.
- **Unique design.**
  Good drainage, no expansion or shrinkage and the dimensions are always kept stable.
- **Quick installation.**
  Lightweight shock pad, easy to install and operate.
- **Repeated use.**
  It can be removed from one field and reused in other fields.
- **Recyclable.**
  Shock pads that can not be reused are recyclable.

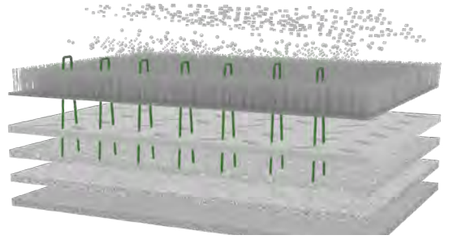


Square hole | Cross | Leave-shape

Nails

Nails refer to U-shape nails and straight nails used in artificial grass installation for fixing. They are generally made of hot dip galvanized steel wire with high gloss properties, making them durable, economical, and environmentally friendly (no soil pollution). These nails have a long lifespan and are reusable. They are known as the adhesive that holds the whole structure of artificial grass together.

- A simple, fast and cheap way for artificial grass installation.
- Eco-friendly nails do no harm to soils.
- Be safe for both pets and kids
- Firm enough for reuse
- Put it anywhere you need it in the simplest way



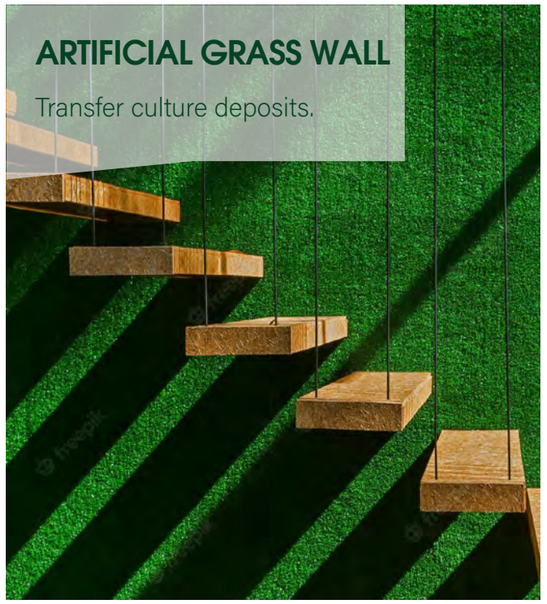
Galvanized U-shape nails | Galvanized head coated U-shape nails | Galvanized & powdered coated U-shape nails | Straight nails

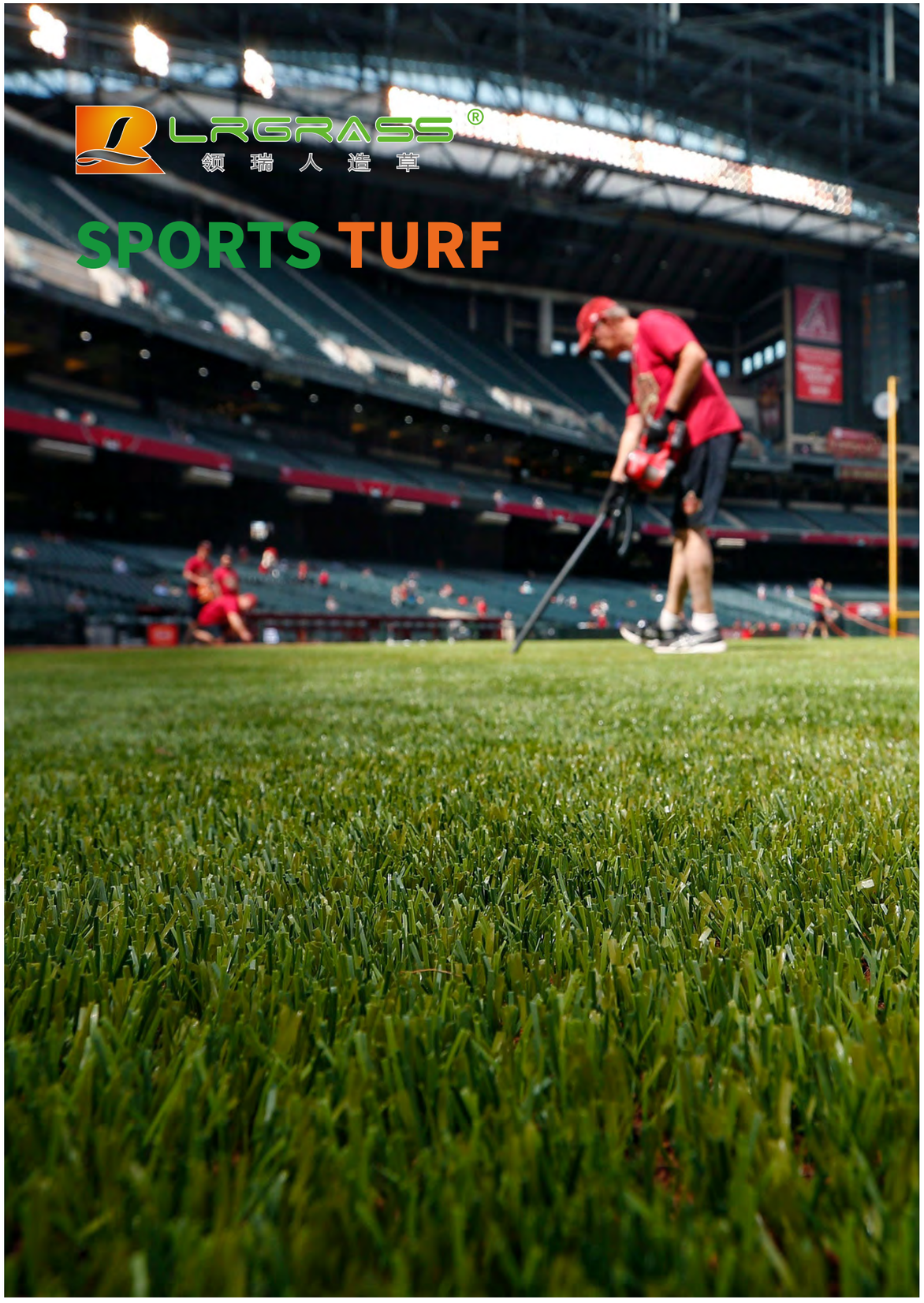
ARTIFICIAL GRASS

APPLICATION

Artificial grass has the same appearance like natural grass. It features good surface flatness, good weather resistance, easy to clean and low maintenance costs, and is widely used in sports courts of both major national and international events. As the features of artificial grass are gaining an increasing attention, it is also used in kindergartens, landscapes and background wall fields to bring better experience for more people.

Furthermore, the environmental protection and recycling of artificial grass are getting an ever-growing attention of researchers. At LRGrass, we are committed to the study of this task. So far, we have developed eco-friendly, recyclable coating to ensure it will not cause damage to the environment while meeting the users' demands on artificial grass.



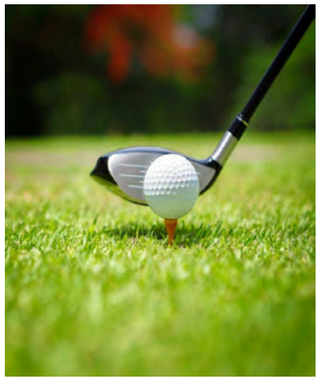


SPORTS TURF

Sports artificial turf is artificial grass specially designed for sports and various sports events. Material selection and manufacturing process are adjusted according to the characteristics and requirements of every sports, aiming to provide athletes with exact the same sports experience as natural grass.

Artificial grass overcomes the shortcomings of natural grass arising from climate and maintenance to ensure the smooth progress of the match and bring better sports experience to athletes.

FOOTBALL

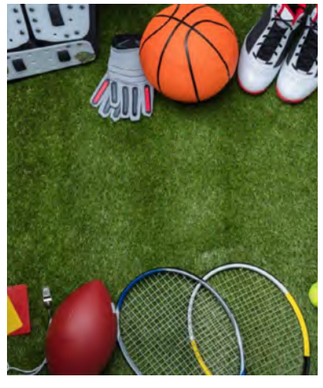


GOLF

RUGBY

HOCKEY

MULTI-SPORTS



MORE SPORTS

FOOTBALL

Artificial Turf

Football is one of the most popular games. Football turf is a necessary part for playing football. During football matches, players need to flick, spike and slide the ball. If the football turf is in poor quality, it is sure to increase the risk of players getting injured, making them cannot play the game properly, further reducing the quality of football match and the viewing experience of the audience. In addition, it will also directly reduce the service life of football field.

Therefore, choosing the right football artificial turf becomes very important.

Benefits

Low maintenance

Artificial grass does not require mowing, watering, or fertilizing, reducing maintenance costs and time.

Durability

Artificial grass is designed to withstand heavy use and wear, making it ideal for high-traffic areas like soccer fields.

Consistent playing surface

Artificial grass does not develop divots, bumps, or holes, providing a smooth and even playing surface for athletes.

Safe

Artificial grass is designed with athlete safety in mind, featuring shock-absorbing properties that reduce the risk of injury during play.

All-weather usability

Artificial grass can be used in any weather, making it ideal for areas with harsh or unpredictable weather conditions. It also has excellent drainage, ensuring that the field stays dry even after heavy rain.

Cost-effective.

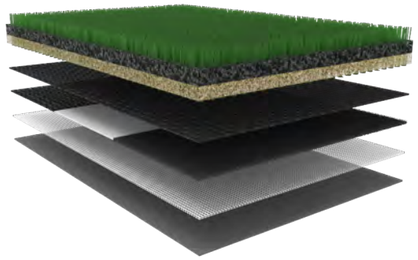
While the initial cost of installing artificial grass may be higher than natural grass, the long-term cost savings from reduced maintenance make it cost-effective in the long run.

Environmentally friendly

Artificial grass does not require the use of pesticides or fertilizers, reducing the environmental impact of maintaining a soccer field.

Infill Football/Soccer Grass

Artificial turf structure



Yarns Types: Monofilament

Yarns Material: PE

Yarns Shape: S, Stem, W, Diamond, C

Yarns Color: Lemon green, Olive green

Pile Height: 30 mm, 35 mm, 40 mm, 45 mm, 50 mm, 55 mm, 60 mm

Width: 2 m, 4 m (Customized range from 1 m to 4 m)

Gauge: 5/8"

DTEX: 5500, 6600, 7500, 8800, 10000, 12000, 14000

Density (tufts/m^2): 9450, 10080, 10710, 11340, 11970, 12600, 13230, 13860, 14490, 15120, 15750, 16380, 17010, 17640, 18270, 18900, 19530, 20160, 20790, 21420, 22050, 22680, 23310, 23940, 24570, 25200, 25830, 26460

Backing: PP+Net+SBR

S **Stem** W Diamond C

Infill Football/Soccer Grass

Artificial turf structure

Infill Yarn

Softness

PE yarns are known for their soft touch, making them comfortable for players and pets to run and play on.

Durability

PE yarns are resistant to UV rays, which can cause other materials to break down over time. This makes PE yarns a durable choice for outdoor use.

Resilience

PE yarns have high resilience, meaning they can recover their shape quickly after being compressed. This is important for maintaining the appearance and evenness of the playing surface

Density

PE yarns can be woven to varying densities. Higher density yarns provide more support to the infill, which can help to prevent compaction.

Colorfastness

The color of PE yarns is resistant to fading, even after long-term exposure to sunlight.

Non-toxic

PE yarns do not contain harmful chemicals, making them safe for pets and children

In summary, PE yarns used in filling type artificial grass have a soft, durable, and resilient structure, making them safe and comfortable for athletes to play on. They are also resistant to UV rays, colorfast, and non-toxic, making them a smart and sustainable choice for artificial turf installations.

Infill Football/Soccer Grass

Artificial turf structure

Backing

Artificial grass backing

The backing of the artificial grass is usually made of a combination of PP,NET and an SBR latex layer. This provides strength, flexibility and durability to the grass system. Double PP layers with SBR layer also can be provided, it with more durability.

Drainage system

The drainage system is an essential component of the filling type artificial grass for soccer fields, and it includes a perforated backing layer and a network of drainage pipes beneath the surface. This system allows water to flow freely, ensuring that the field is always in optimal condition for play.

Overall, it offers excellent shock absorption and cushioning, and ensures that the field remains dry, even during heavy rain. The combination of a sturdy sub-base, a flexible backing, and an effective drainage system helps to ensure that the soccer field remains in top condition for years to come.

TCFS

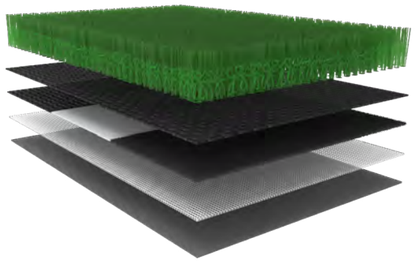



TCGJ




Non-Infill Football/Soccer Grass

Artificial turf structure



Yarns Types:
Straight Yarns
Curly Yarns

Yarns Material:
PE

Yarns Shape:
S, Stem, W, Diamond, C

Yarns Color: Lemon green, Olive green

Pile Height:
25mm,
30mm,
35mm,
40mm

Width:
2 m, 4 m (Customized range from 1 m to 4 m)

Gauge:
3/8"

DTEX
10000, 12000, 14000, 16000

Density (tufts/m^2):
14700, 16800, 18900, 21000, 22050, 23100, 24150, 25200, 26300

Backing:
PP+Net+SBR

S **Stem** W Diamond C

Non-infill Yarn

Short pile height
Shorter pile height better stability and durability of the turf.

High density
Yarns are tightly packed to provide a dense and uniform surface.

Softness
Softer materials ensure player safety, particularly in contact sports such as soccer.

High UV resistance
It is manufactured to resist fading and discoloration due to prolonged exposure to sunlight.

No need for infills
It doesn't require infill materials to stabilize the surface.

Better drainage
Yarns are designed with drainage systems that allow fast and efficient drainage of excess water.

Easy maintenance
Less maintenance and can be quickly cleaned without the need for specialized equipment.

Backing

Durability
The bottom layer of non-filling type artificial grass is typically made from durable materials that can withstand heavy traffic, shock, and wear and tear over time. This layer is often reinforced with fibers such as polypropylene or nylon, which help to strengthen the layer and prevent it from breaking down.

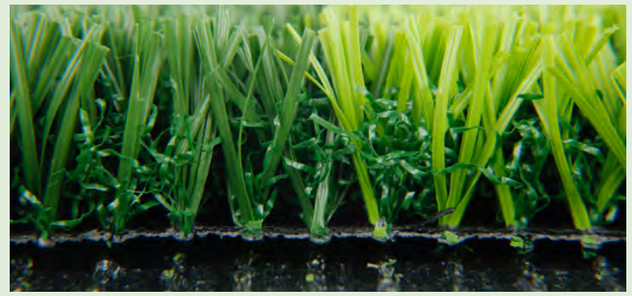
Water Permeability
The bottom layer of non-filling type artificial grass is designed to be permeable to water, which helps to drain water away from the surface and prevent water logging. This layer usually contains small holes and perforations that allow the water to move through the artificial grass and drain away.

Strong Pull-Out Force
The bottom layer of non-filling type artificial grass is engineered to provide a strong anchor for the individual fibers of the artificial grass. High-quality artificial grass should be able to withstand strong pull-out forces, ensuring that the surface remains stable and safe for players.

LRNGH

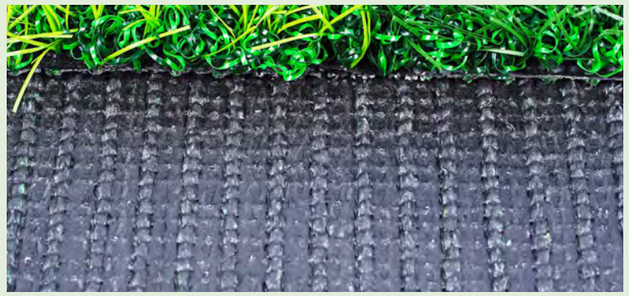



LRNFC

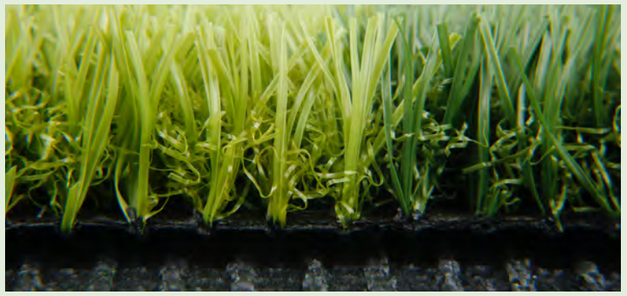



LRNFQ






LRNFX

FOOTBALL FIELD STANDARD SIZE & AREA

11-man football field

Standard Size:

Including buffer zone:

[105+(2*2[1])]*[68+(2*2[1])]=7848 m²

Excluding buffer zone:

105*68=7140 m²

Line width[2]**:**

12 cm

Notes:

[1] Buffer zone is 2 m in width.

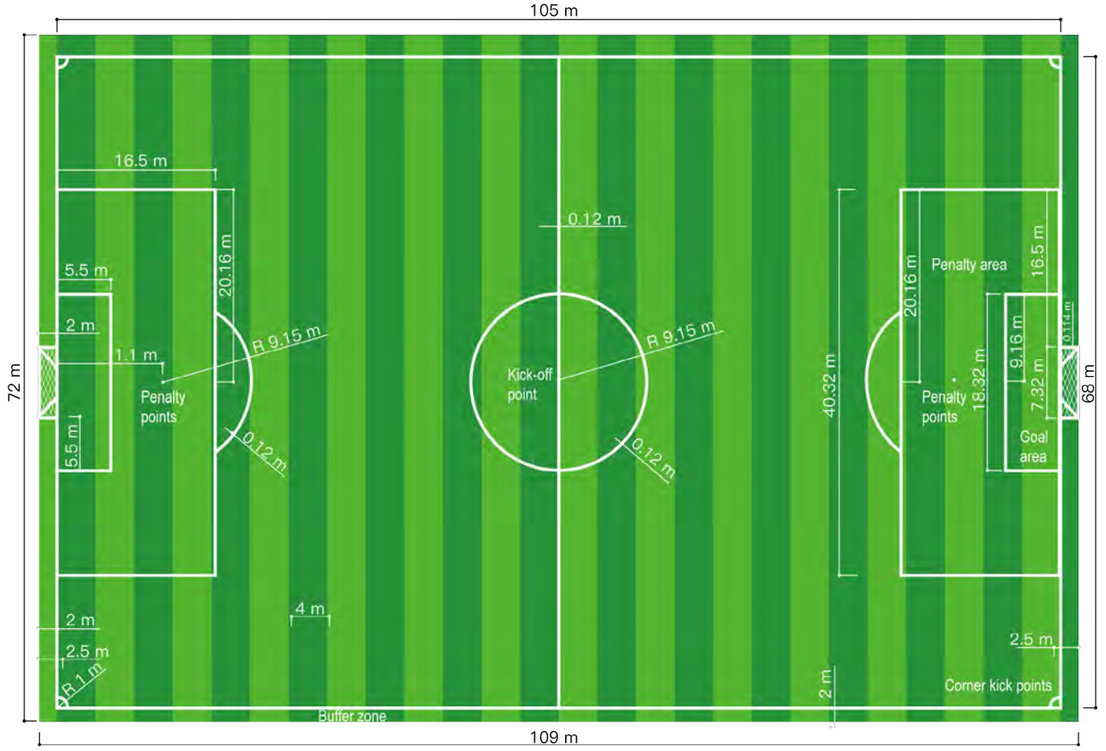
[2] The length and width sizes are sizes including line width.

Length

105–110 **m**

Width

60–70 **m**



GOLF

Artificial Turf

Golf is a sport with a special appeal, allowing people to exercise and relax in a beautiful natural environment. At the same time, various international tournaments have emerged.
However, building a golf course is not hard enough, maintaining one can be a full-time job. Even worse, in the event of bad weather, training has to be suspended.

Our artificial golf turf (putting green) was born out of necessity. Artificial golf turf is designed for practising and enjoying all aspects of the game of golf. Quality golf putting green not only breaks weather restrictions and guarantees year-round training, but is also maintenance-free, significantly reducing maintenance costs.

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' breathing.

Pile height
10–20 mm

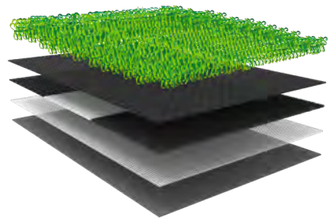
Grass fiber weight
4400 DTEX and above

Flatness
The ball rolls in any direction on the artificial turf.

Fraction force
It offers enhanced fraction force to ensure the safety of elderly people.

Recommendations

Golf
Artificial turf structure



Height:
10–20 mm

Gauge:
3/16", 1/4", 3/8"

DTEX:
4400–10000

Density
29400–71400 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Red thatch

Blue thatch

Lawngreen thatch

LAWN BOWLS

Artificial Turf

Lawn bowls artificial turf puts a high requirement on the flatness of artificial grass. Recently, lawn bowls is getting an increasing popular. It is a high-level, detail-oriented sports, so it puts a high requirement on surface flatness. If using natural grass, it requires a high construction cost and regular daily maintenance, and is easy to have pot holes.

Therefore, it is necessary to lay artificial grass. If artificial grass is poor quality, it will severely affect the competition experience, laying artificial grass with good flatness and excellent wear-resistance is of great importance.

Requirements

Grass fiber material
PP

Grass fiber structure
Wear and tear breakage shall be prevented from affecting the athletes' breathing.

Pile height
10–20 mm

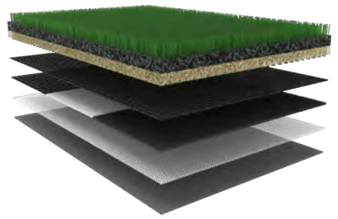
Grass fiber weight
6000 DTEX and above

Flatness
Smooth surface facilitates the smooth rolling of lawn bowls.

Infill
Infills shall be added to keep grass fiber upright.

Recommendations

Lawn bowls
Artificial turf structure



Height:	Gauge:	DTEX:	Density
33–50 mm	3/8"	6000–14000	10500 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Stem blade

LAWN BOWLS FIELD STANDARD SIZE & AREA

Lawn bowls field

Standard Size:

37.5*37.5=1406.25 m²

Line width[1]:

5 cm

Notes:

[1] The length and width sizes are sizes including line width.

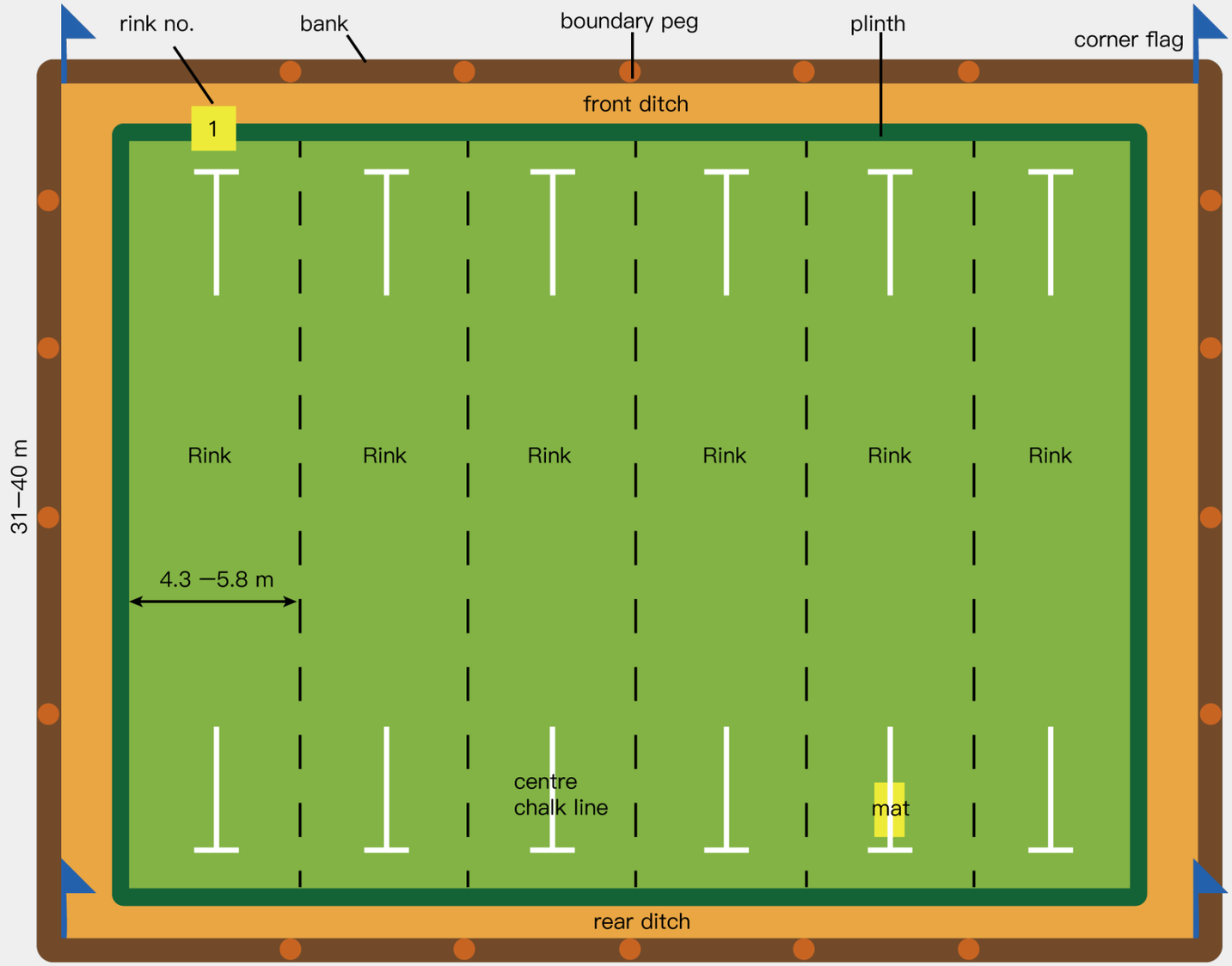
Optional:

Length

31–41 **m**

Width

31–40 **m**



HOCKEY

Artificial Turf

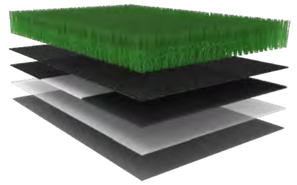
Hockey artificial turf is the most demanding turf among all artificial turfs, which mainly comes from the characteristic of hockey sports. During the hockey match, the ball moves quickly and players need to run quickly to grab, hit or block the ball. If the artificial turf is poor quality, it not only lowers the quality of the competition, but also increases the risk of players getting injured.

So it also requires good flatness, superb water permeability and great wear-resistance in addition to comply with conventional artificial grass standards.

Recommendations

Non-infill Hockey

Artificial turf structure



Height:	Gauge:	DTEX:	Density
10–30 mm	3/16"	7300–14000	21000–73080 (tufts/m^2)

Color

Designed for international competitions.

- Pile height: 10–18 mm
- Grass fiber density: Increased tufting density plays the role of shock absorption and reduce the joint pressure of players.
- Flatness: It needs to ensure the precise ball control and smooth ball rolling.
- Regular water replenishment: It helps to reduce the surface abrasion, improve the ball speed and the consistency of ball rolling to ensure the smooth process of the game.

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

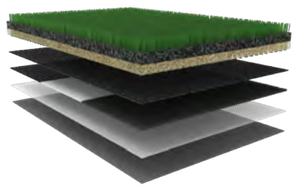
Grass Fiber Recommendations

Double W blade + Thatch

Thatch

Infill Hockey

Artificial turf structure



Height:	Gauge:	DTEX:	Density
10–30 mm	3/16"	7300–14000	21000–73080 (tufts/m^2)

Color

Designed for national & local competitions, schools and and sports clubs training.

- Sand Dressed Hockey Pitch
  - Pile height: 13–20 mm
  - At least 25% grass fibers are exposed.
  - Can be added with water.
- Sand Filled Hockey Pitch
  - Pile height: 18–30 mm
  - Cannot be added with water.

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

V-shape blade

HOCKEY FIELD
STANDARD SIZE & AREA

Hockey field

Standard Size:

Including buffer zone:

[91.4+(2*3[1])]*[55+(2*2[2])]=5746.6 m^2

Excluding buffer zone:

91.4*55=5027 m^2

Line width[3]:

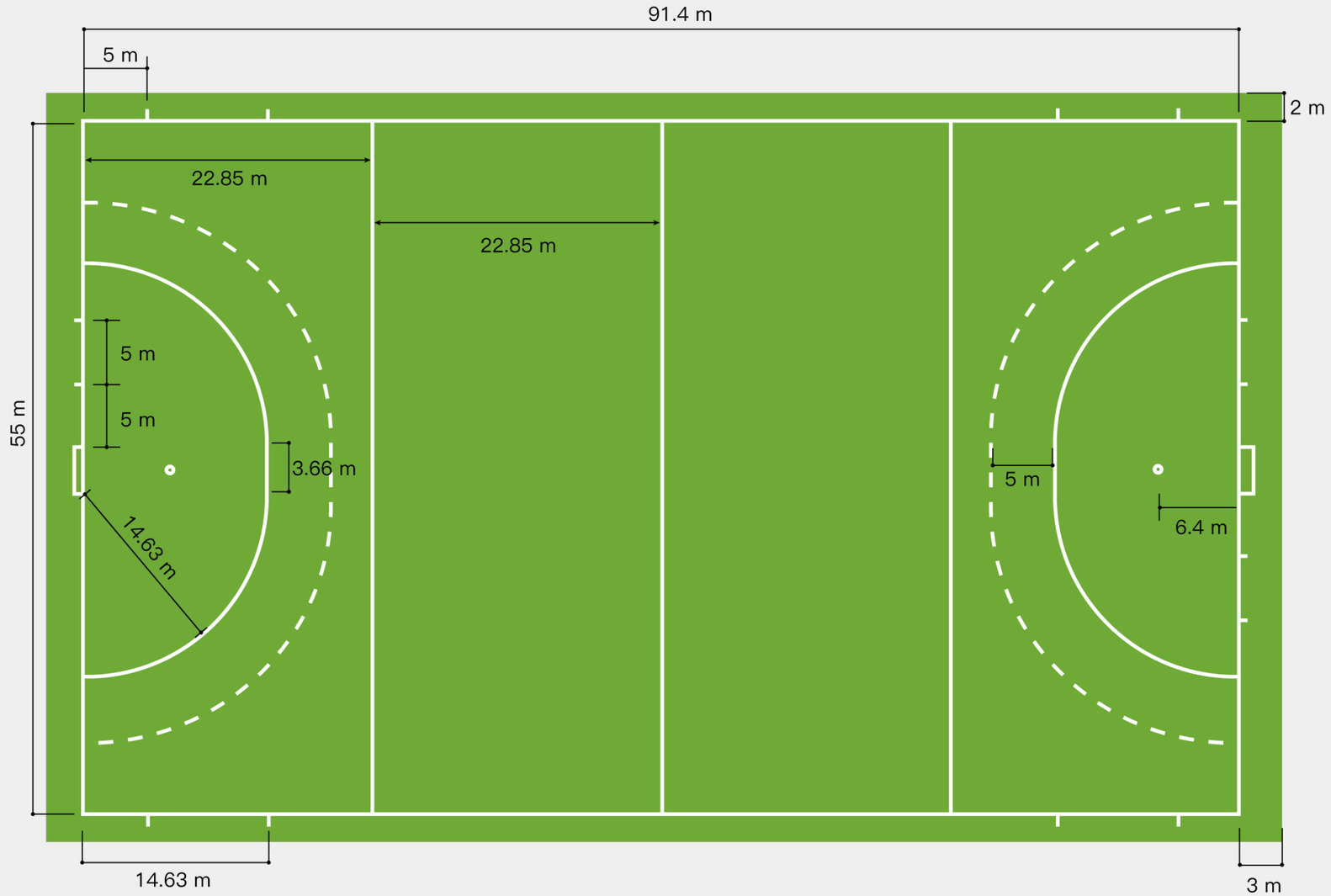
7.5 cm

Notes:

[1] Buffer zone is 3 m in length.

[2] Buffer zone is 2 m in width.

[3] The length and width sizes are sizes including line width.



RUGBY

Artificial Turf

When laying rugby artificial turf, the characteristics of rugby shall be taken into full consideration. In rugby matches, players have fierce physical confrontations. Besides, they have a high body weight and run up to 35 km/h. They will kick the ball with their feet, pass the ball with their hand and run with the ball in their arms, etc. If the artificial grass is poor quality, it not only affect the quality of competition, but also increases the risk of players getting injured.

As a result, rugby artificial turf grass fiber needs to be soft, elastic and durable to reduce the friction on players' skin.

Requirements

Grass fiber material
PP

Grass fiber structure
Wear and tear breakage shall be prevented from affecting the athletes' safety.

Pile height
30–60 mm

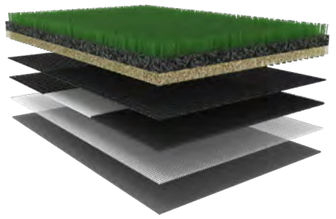
Grass fiber weight
8800 DTEX and above

Simulation performance
Its performance and appearance are similar to natural grass.

Infill
silica sand infill or crumb rubber infill

Recommendations

Rugby
Artificial turf structure



Height: 30–60 mm

Gauge: 1/2", 3/4", 3/8", 5/8"

DTEX: 8800–16600

Density: 10500–20000 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations


Diamond blade


Stem blade


S-shape blade


U-shape blade


M-shape blade

CRICKET

Artificial Turf

Cricket artificial turf is artificial turf laid to meet the needs of cricket playing field. Cricket is a comprehensive sport that exercises hand-eye coordination and integrates upper body movement control, skill and strength. It is important to ensure that the artificial turf is directionless and durable, especially in high traffic areas of the pitch.

If the artificial turf is poor quality, it will not only affect the game but also pose a safety threat to the players, so durable artificial turf is selected.

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

30–60 mm

Grass fiber weight

7500 DTEX and above

Flatness

The cricket non-directionally rolls on artificial turf.

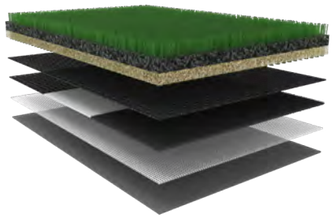
Infill

Silica sand infill or crumb rubber infill is provided to keep grass fibers upright and offer certain elasticity.

Recommendations

Cricket

Artificial turf structure



Height:
30–60 mm

Gauge:
5/8", 3/4"

DTEX:
11000, 16000

Density
10500–20000 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Stem blade

Diamond blade

BASKETBALL

Artificial Turf

Basketball artificial turf is artificial turf specially laid for basketball sports. Basketballl is one of the most popular sorts in world. During the basketball game, artificial turf is required to have good bounce and can make the basketball bounce up quickly to ensure the smooth progress of the match. If the artificial turf is poor quality, it will affect the bounce of the basketball and further affect the players' state.

So, basketball artificial turf with high density, good bounce and wear resistance is highly recommended.

Requirements

Grass fiber structure:
Wear and tear breakage shall be prevented from affecting the athletes' safety.

Flatness
Smooth surface facilitates the smooth rolling of the basketball.

Pile height
10–20 mm

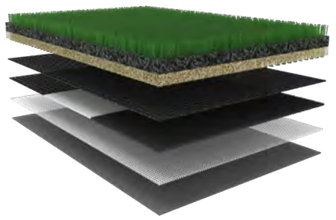
Grass fiber weight
8800/7400/6600 DTEX

Grass fiber density
High density grass fibers are selected to ensure the rebound performance and rebound speed of the basketball.

Infill
Silica sand infill or non-infill

Recommendations

Basketball
Artificial turf structure



Height:
10–20 mm

Gauge:
1/5", 3/16", 3/4"

DTEX:
7000, 8000, 8800

Density
10500–73500 (tufts/m^2)

Color

Backing

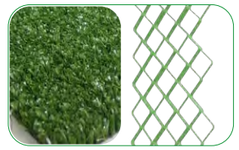
- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Stem blade



Fibrillated fiber

U-shape blade

S-shape blade

BASKETBALL FIELD STANDARD SIZE & AREA

Basketball field

Standard Size:

Including buffer zone:

$[28+(2*2^{[1]})]*[15+(2*2^{[1]})]=608\ m^2$

Excluding buffer zone:

$28*15=420\ m^2$

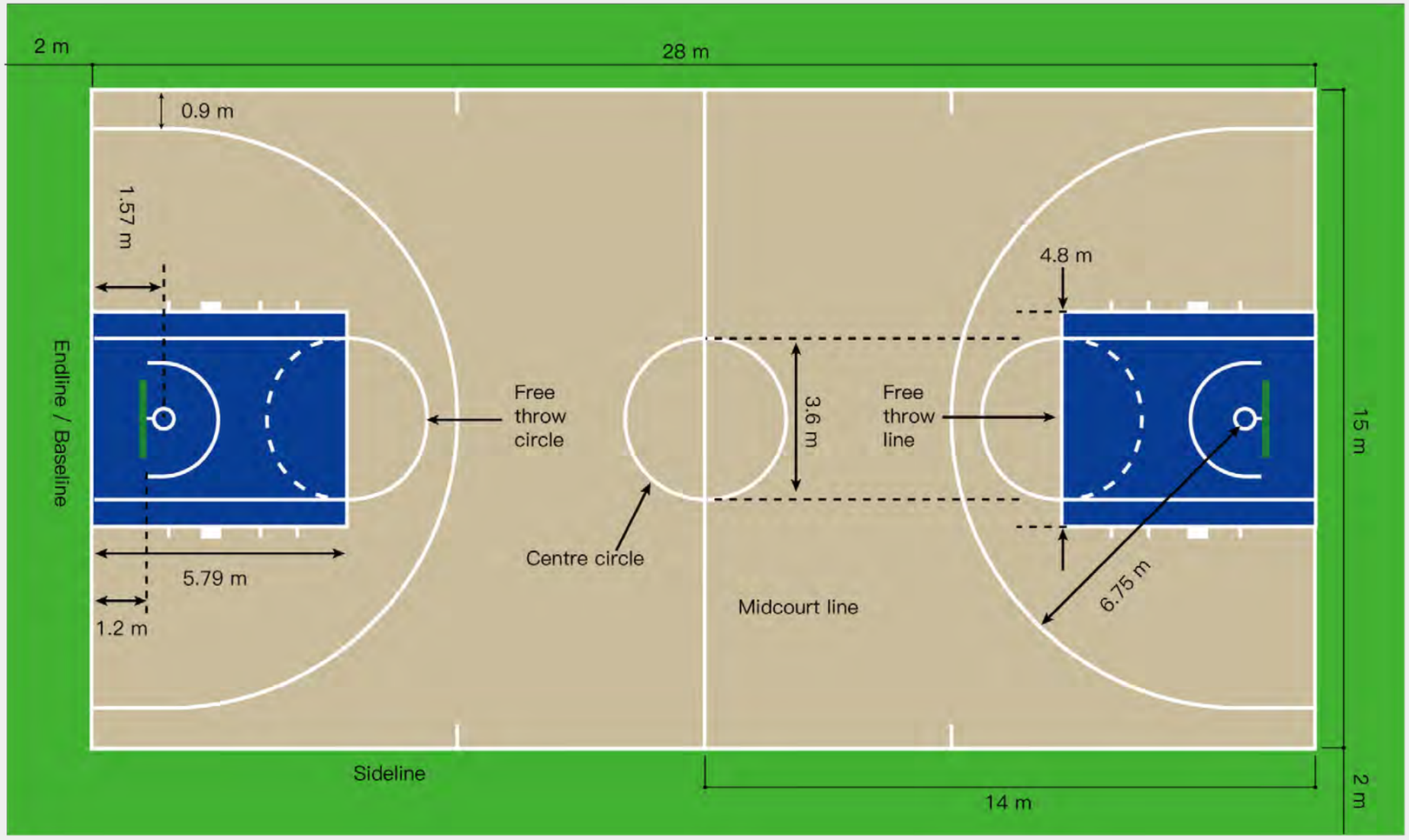
Line width[2]:

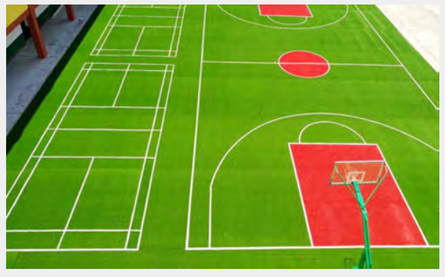
5 cm

Notes:

[1] Buffer zone is 2 m in width.

[2] The length and width sizes are sizes including line width.





TENNIS

Artificial Turf

Tennis artificial turf is a synthetic turf laid on tennis court. Tennis, an Olympic sport, is one of the sports that require flexibility, strength, endurance, agility, and speed. Due to the sudden repetition of frequent turns during the game, the fact that the field allows for quick movements for tennis creates an effect that increases the performance of the players.

If the turf is poor quality, it will affect the rebound performance of the tennis and further affect the competition state of the players. Therefore, artificial turf with good rebound performance, wear resistance and little friction force is highly recommended.

Requirements

Grass fiber structure:

Wear and tear breakage shall be prevented from affecting the athletes' safety.

Flatness

The ball rolls on artificial grass undirectionally.

Pile height

10–20 mm

Grass fiber weight

8800 DTEX

Grass fiber density

High density grass fibers are selected to ensure the rebound performance and rebound speed of the tennis.

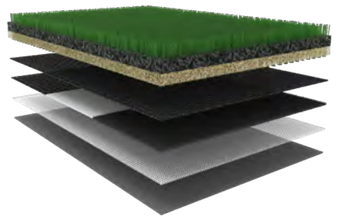
Infill

Silica sand infill.

Recommendations

Tennis

Artificial turf structure



Height:	Gauge:	DTEX:	Density
10–20 mm	1/5", 5/32", 3/16"	6600, 8000, 8800	10500–73500 (tufts/m^2)

Color

Backing

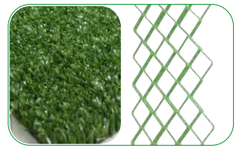
- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Stem blade



Fibrillated fiber

U-shape blade

TENNIS FIELD
STANDARD SIZE & AREA

Tennis field

Standard Size:

Including buffer zone:

[23.77+(2*6.4[1])]*[10.97+(2*3.65[2])]=668.13 m^2

Excluding buffer zone:

23.77*10.97=260.76 m^2

Line width[3]:

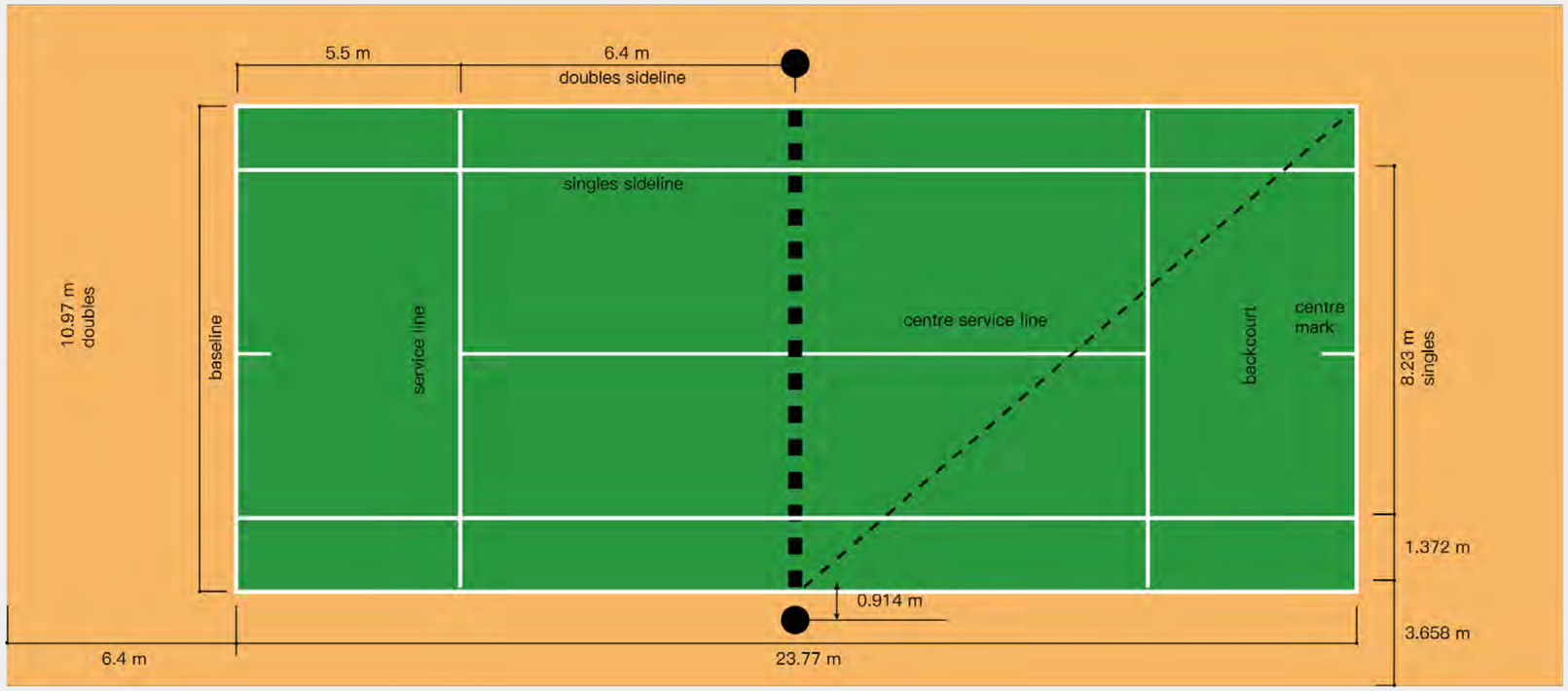
5 cm

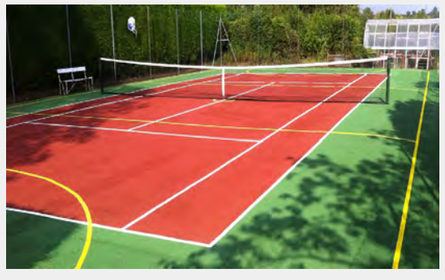
Notes:

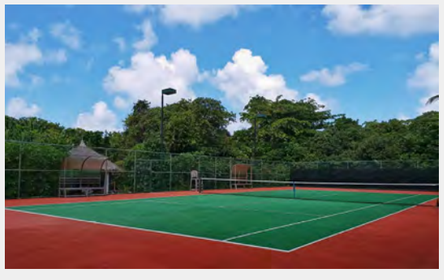
[1] Buffer zone is 6.4 m in length

[2] Buffer zone is 3.65 m in width.

[3] The length and width sizes are sizes including line width.







BASEBALL

Artificial Turf

Baseball artificial turf is synthetic turf laid on baseball field. Surface variations of the baseball field surface will have a significant impact on ball behavior, fielding and base running.

Thanks to its flatness and durability, artificial turf offers best rebound performance for every part of the field to ensure the smooth progress of the baseball match and improve players' competition experience.

Requirements

Grass fiber material

Soft PP.

Grass fiber structure

Monofilament grass fibers shall be adopted to prevent wear and tear breakage affecting players' breathing.

Pile height

40–65 mm

Grass fiber weight

10000 DTEX and above

Flatness

Smooth surface facilitates the smooth rolling of the baseball.

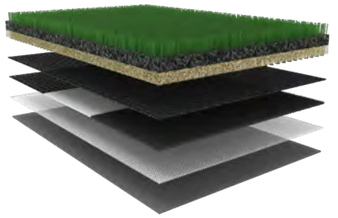
Infill

Infills shall be added to keep grass fibers upright.

Recommendations

Baseball

Artificial turf structure



Height:	Gauge:	DTEX:	Density
40–65 mm	5/16", 3/8", 1/2", 5/8"	11000–14500	10800–18000 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Stem blade

Diamond blade

S-shape blade

Artificial Turf

RUNNING TRACK

Artificial grass running tracks are specially designed for track-and-field sports. Of which, running is one of the most popular events with the largest number of participants. It not only strengthens the body but also promotes the development of teamwork skills. So, running tracks are a necessary sports facility in kindergartens, primary schools, colleges and universities.

Artificial grass running tracks gain its popularity due to its low maintenance cost and good weather resistance. Besides, it gives runners better running experience than natural grass.

Requirements

Grass fiber material

PE or PP that does no contain heavy metals, or no volatile odor at high temperatures.

Grass fiber structure

Monofilament grass fibers shall be adopted to prevent wear and tear breakage affecting players' breathing.

Pile height

20–30 mm

Grass fiber weight

7000–8800 DTEX

Flatness

Smooth surface facilitates the smooth rolling of the baseball.

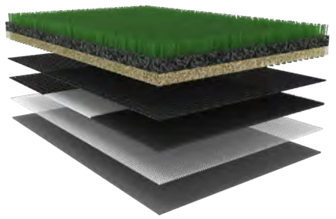
Infill

Silica sand infill

Recommendations

Artificial Grass

Running Track structure



Height:	Gauge:	DTEX:	Density
20–30 mm	3/8"	7000, 8000, 8800	23750, 24150, 28500 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Stem blade

S-shape blade

Diamond blade

MULTI-PURPOSE SPORTS

Artificial Turf

During the sports field construction, we sometimes encounter such problems: limited available space and high construction cost of single sports field.

To meet various sports needs, LRGrass launches multi-purpose sports artificial turf.

To some extent, it saves construction costs, reduces late stage maintenance costs and achieves multi sports purposes, such as football & rugby field, volleyball & badminton fields.

Requirements

Specification

Grass fiber materials, structures and pile heights are determined based on sports type.

Flatness

Smooth surface facilitates the smooth rolling of the ball.

Simulation performance

Its performance and appearance are similar to natural grass.

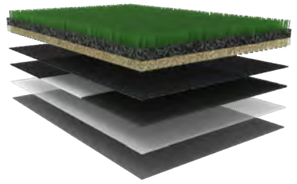
Infill

Choose infills or non-infills based on sports field types.

Recommendations

Multi-Purpose Sports

Artificial turf structure



Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Height: (mm)	Gauge: (inch)	DTEX:	Density: (tufts/m^2)
Football 25–60	Football 1/4", 5/8", 3/8"	Football 5500–16000	Football 9500–25200
Rugby 30–60	Rugby 1/2", 3/4", 3/8", 5/8"	Rugby 8800–16600	Rugby 10500–20000
Basketball 10–20	Basketball 1/5", 3/16", 3/4"	Basketball 7000, 8000, 8800	Basketball 10500–73500
Tennis 10–20	Tennis 1/5", 5/32", 3/16"	Tennis 6600, 8000, 8800	Tennis 10500–70560
Running track 20–30	Running track 3/8"	Running track 7000, 8000, 8800	Running track 23750, 24150, 28500

Color

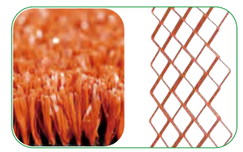
Grass Fiber Recommendations

Stem blade
Football & rugby filed

Diamond blade
Football & rugby filed

M-shape blade
Football & rugby filed

U-shape blade
Football & rugby filed



Fibrillated fiber
Tennis, basketball & running track

LRGRASS®
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KINDERGARTEN TURF

Kindergarten artificial turf is mainly for kids. When laying artificial turf, we shall not only consider the safety and eco-friendly properties of grass fibers, but also the variety of grass fiber colors to improve the fun of kinds when they are playing.

If the turf is poor quality, it not only threatens the kids' safety, but also affects the kids' health. As kids know little about dangerous items, silica sand and crumb rubber infills are dangerous to kids. So infills shall be avoided to ensure the safety of kids when they are crawling on the turf or skin and body getting contact with the turf.

Requirements

Grass fiber material
Soft PE& PP

Grass fiber structure
It shall enhance the softness of artificial turf.

Infill
Silica sand or crumb rubber infills shall be avoided to prevent kids from getting injured rising from hard object impact.

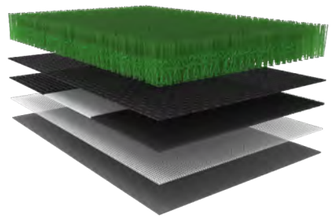
Grass fiber weight
6500–14000 DTEX

Pile height
20–60 mm

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

Recommendations

Artificial Grass
Kindergarten Turf structure



Height:
20–60 mm

Gauge:
3/8"

DTEX:
6500–14000

Density
16800–25200 (tufts/m^2)

Color

Backing

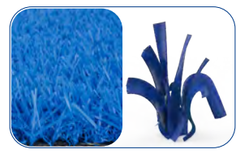
- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

U-stem blade + Thatch



C-shape blade + Thatch

M-shape blade + Thatch

U-shape blade + Thatch

W-shape blad + Thatch

LRGRASS®
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LANDSCAPE TURF

LANDSCAPE TURF

Landscape artificial turf is suitable for being laid on outdoor areas of all places and is widely accepted by a growing number of users due to its low maintenance costs and good looking. Natural grass may lead to unsightly pathways because of wear or mud turf surface because of rain.

However, artificial grass is able to withstand the high activity of foot traffic, kids' play, and extreme weather conditions, and has good UV resistance and will not shade due to exposure to the sun and meet people's recreational demands throughout the year.

RESIDENTIAL LANDSCAPE ARTIFICIAL TURF

ARTIFICIAL GRASS PUTTING GREEN

PET ARTIFICIAL TURF

PLAYGROUND ARTIFICIAL TURF

RESIDENTIAL LANDSCAPE

Artificial Turf

Residential landscape artificial turf is artificial turf laid in house yard. It is a necessary green product in landscaping. It has a natural, realistic look and its good quality makes it remain green throughout the year regardless of season changes.

Additionally, it has good adaptability to the environment, pollution-free and no irritation odors to kids and pets, and can create a safe, sound living environment.

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

20–60 mm

Grass fiber weight

6500–14000 DTEX

Infill

Non-infill is adopted to prevent family from getting injured because of hard object impact.

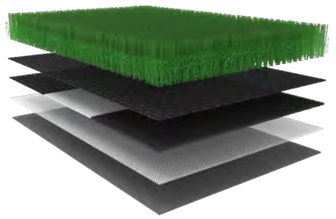
Additive

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: 20–60 mm

Gauge: 3/8"

DTEX: 6500–14000

Density 16800–25200 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

C-shape blade + Thatch

S-shape blade + Thatch

Stem blade + Thatch

Double W-shape blade + Thatch

Artificial Turf

PUTTING GREEN

Artificial grass putting green is a popular alternative to golf course. With the growth of modern golf, especially the birth of artificial grass putting greens makes ordinary human beings can enjoy the fun of the sports in the courtyard, roof or office. While real grass on a golf course requires a lot of maintenance to keep it in top condition all year round. Artificial grass putting green not only brings the experience exactly the same as natural turf, but also requires less maintenance than natural turf. It can be used all year round with no seasonal restrictions.

If the turf is poor quality, it will reduce the experience of golf sports. So, artificial grass putting green needs to have a uniform, smooth surface, and consistent height so that the ball can roll smoothly on the turf.

Requirements

Grass fiber structure

Elastic grass fiber shall be selected.

Grass fiber structure

Enhanced elasticity and fiber density make the turf denser.

Pile height

10–20 mm

Grass fiber weight

4400–10000 DTEX

Flatness

The ball rolls undirectionally on artificial turf.

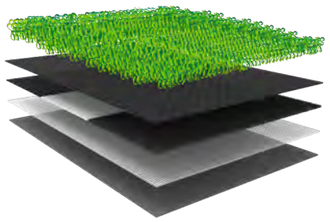
Infill

Uniform infill, no excess pebbles are permitted to maximize the flatness of artificial turf to a large extent.

Recommendations

Artificial Grass

Putting Green structure



Height:	Gauge:	DTEX:	Density
10–20 mm	3/16", 1/4", 3/8"	4400–10000	29400–71400 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

Thatch

PET

Artificial Turf

Pet artificial turf is specially designed for pets. It is durable and safe for all family members and pets. With natural grass, animal urine makes the whole yard smell bad. Besides, dirt also makes animals a mess. If the turf is poor quality, it not only affects the pets' playing environment, but also the hygiene in the yard.

When using artificial turf, turf deodorant is provided at the bottom of the turf during the installation to help your turf always fresh and odorless, making your pet free from rolling around in the dirt.

Requirements

Grass fiber material

Soft PP and PE

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.

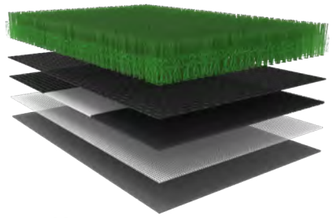
Backing

Good water permeability backing ensures pet urine completely drains out.

Recommendations

Pet artificial turf structure with a mixture of monofilament grass fibers and thatch

Artificial turf structure



Height: 20-60 mm

Gauge: 3/8"

DTEX: 6500-14000

Density 16800-25200 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

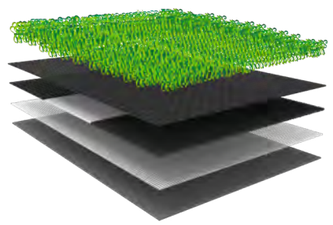
Grass Fiber Recommendations

U-stem blade + Thatch

U-shape blade + Thatch

Pet artificial turf structure with thatch

Artificial turf structure



Height: 10-20 mm

Gauge: 3/16", 1/4", 3/8"

DTEX: 4400-10000

Density 29400-71400 (tufts/m^2)

Color

Backing

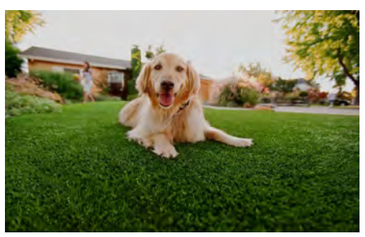
- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

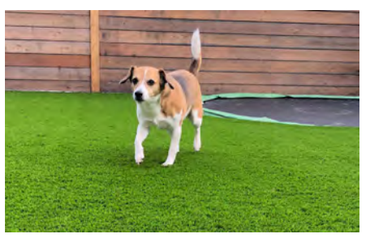
Coating

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

Grass Fiber Recommendations

Thatch





PLAYGROUND

Artificial Turf

Playground artificial turf is commonly laid in park playgrounds, kindergartens and schools. Artificial grass won't become worn into unsightly pathways or patchy messes like it would with traditional grass. Besides, it is able to withstand the high activity of foot traffic, kids' play, and extreme weather conditions. It is an ideal choice for backyard areas where your kids may be playing or where you enjoy spending your leisure time. Before installation, the installation surface shall be free from excess stones to keep the turf surface flat.

It not only guarantees the safety of personnel, but also extends the lifespan of artificial grass to some extent.

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

20–50 mm

Infill

The surface is free from excess stones to prevent personnel from getting injured because of hard object impact.

Additive

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

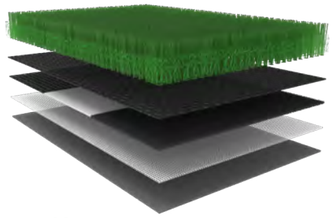
Backing

Good water permeability backing ensures pet urine completely drains out.

Recommendations

Playground artificial turf structure with a mixture of monofilament grass fibers and thatch

Artificial turf structure



Height: 20–50 mm

Gauge: 3/8"

DTEX: 7000–12000

Density 14700–35000 (tufts/m^2)

Color

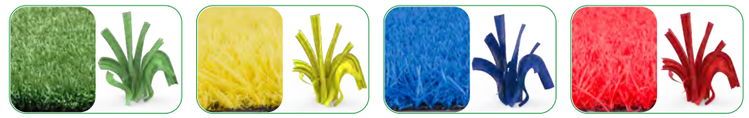
Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

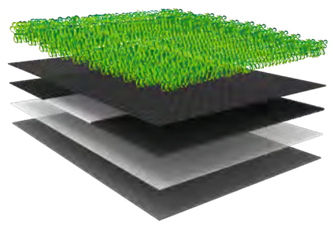
Grass Fiber Recommendations



U-shape blade + Thatch | W-shape blade + Thatch | C-shape blade + Thatch | M-shape blade + Thatch

Playground artificial turf structure with thatch

Artificial turf structure



Height: 20–50 mm

Gauge: 3/8"

DTEX: 7000–12000

Density 14700–35000 (tufts/m^2)

Color

Backing

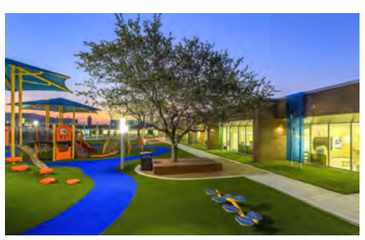
- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

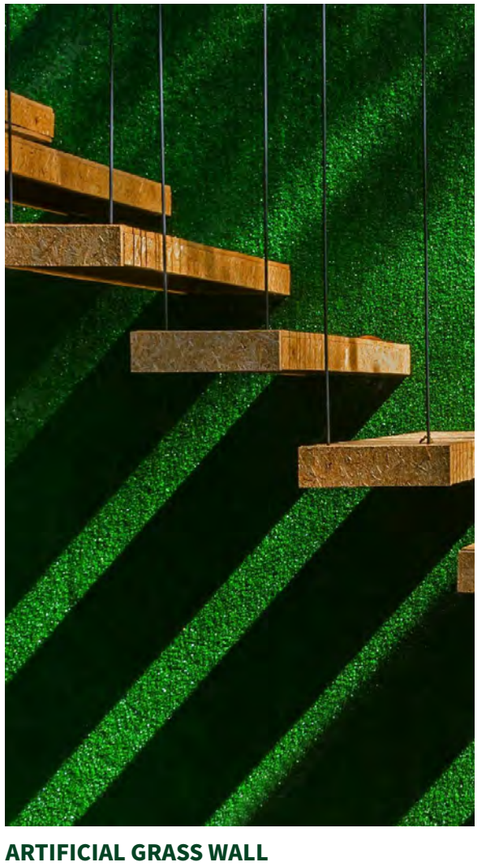
Grass Fiber Recommendations

Thatch



ARTIFICIAL GREEN WALL

Artificial green wall is especially designed to to create a natural, comfortable atmosphere in office, commercial, home and other areas. We can customize artificial green walls according to the environment and customer's needs, aiming to integrate creative and artistic artificial green wall into serious office, commercial and other environments, and bringing instant color and natural beauty to people. It overcomes the shortcomings of real grass wall such as high cost maintenance and seasonal influence, and is increasingly accepted and recognized due to its low maintenance cost and more creativity.



ARTIFICIAL GRASS WALL

ARTIFICIAL PLANT WALL

ARTIFICIAL GRASS WALL

Artificial grass wall is a natural, eco-friendly, decorative artificial grass products that can be seen everywhere in our life. It not only builds a natural, comfortable atmosphere for your area, but also can be designed into various shapes according to your needs. It is widely used in coffee shops, hotels, restaurants and other places due to its low maintenance costs and easy cleaning features.

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

40 mm

Grass fiber weight

11000 DTEX and above

Simulation performance

Its performance and appearance are similar to natural grass.

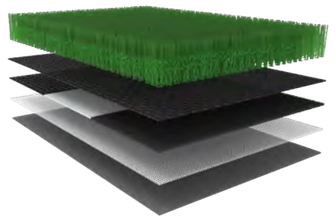
Infill

Non-infill material.

Recommendations

Artificial Grass

Wall structure



Height:	Gauge:	DTEX:	Density
40 mm	3/8"	7000–12000	16800 (tufts/m^2)

Color

Backing

- PP + PP + grid backing
- PP + PET + grid backing
- PP + non-woven fabric + grid backing

Coating

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

Grass Fiber Recommendations

U-stem blade + Thatch

S-stem blade + Thatch

ARTIFICIAL PLANT WALL

Artificial plant wall is designed to provide you with a green wall solution. No matter you need to hide an unsightly retaining wall, cover a concrete wall, or simply create a beautiful plant background for a room or garden, all your purposes can be achieved by using artificial plant walls.

LRGrass can offer artificial plant walls in a variety of sizes and flower patterns to provide your place with the same experience as real plants. Artificial plant walls are widely used in both indoor and outdoor decoration due to its easy maintenance and cleaning characteristics.

Requirements

material
PP, non-toxic and harmless, no formaldehyde release

Installation
It shall be easy to install and remove

Additives
Anti-UV additives are added to ensure it will not fade when exposed to the sunlight.

Maintenance
It shall be easier to maintain and clean than real plants

Waterproof and flame retardant
It shall not bring safety risks to the environment in which it is located.

Simulation performance
Its performance and appearance are similar to real plants.

Recommendations

Specification Recommendation

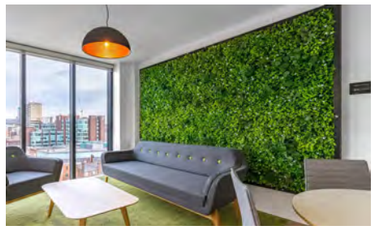
100 cm × 100 cm
50 cm × 50 cm
40 cm × 60 cm

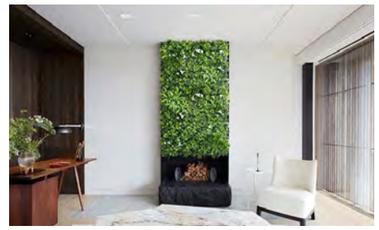
Popular Recommendations

Deep purples and bright reds

Grass greens and reds

Gardenia blossom





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.

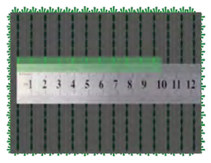
TERMINOLOGY

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.

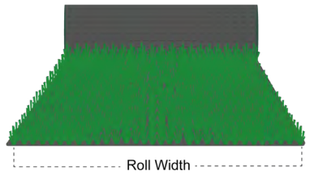
Stitch rate

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.



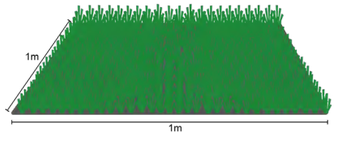
Gauge

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



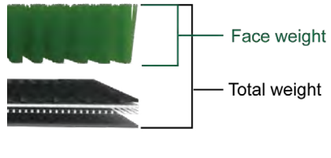
Roll Width

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



Density

Number of tufts per unit area, expressed in tufts/m^2.
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/m^2



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 appe arance, 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	Knit multiple monofilament yarn and then fix it by high temperature to make the crimps.	Texturize the monofilament yarn by the air pressure. The curly degree is subject to the nozzle valve and air pressure.
Fullness and completeness	★★★★★	★★★★
Elasticity	★★★★★	★★★★
Tufting time	Not exceeding 3 weeks.	No time limit.
Shape durability	6 years	3 years
Application field	High-end sports fields and landscaping lawns	Common sports fields

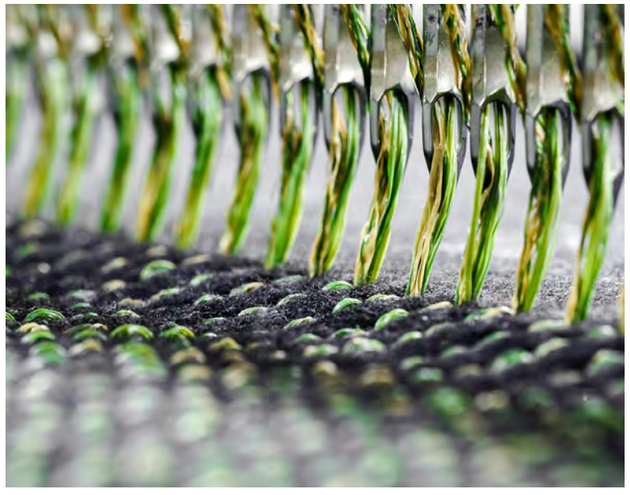
Compared with ATY, KDK greatly improves its performance and can adapt to high-end sports fields. KDK is generally adopted for LRGrass artificial grass thatch production.

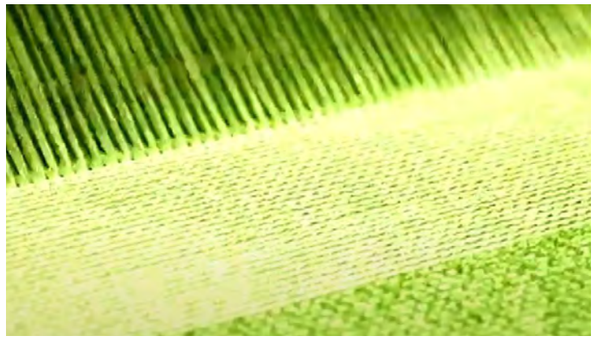
ARTIFICIAL GRASS PRODUCTION PROCESS

Artificial grass production process is a key link in artificial grass production. It not only affects the firmness of grass fiber and the adhesion of coating, but also concerns the lifespan of artificial grass.

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

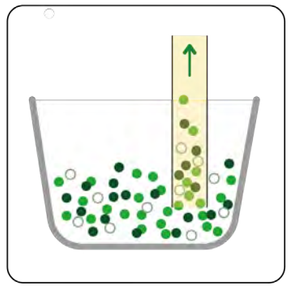
Multi-layer fibers are needled together to form grass fibers. Compared with other artificial grass, needle punched artificial grass surface offers highest porosity (If the material has high porosity, it indicates the material is not compact.), good wear-resistance and least sand content. So, it also 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.

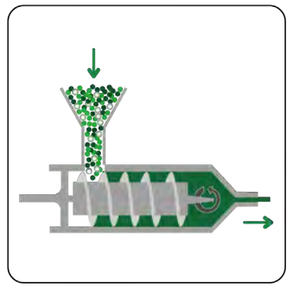
MAIN PRODUCTION PROCEDURES

1.Raw Material Processing



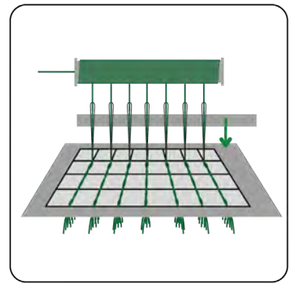
Mix the color masterbatch in a certain proportion and pump the color masterbatch to the extruder.

2.Grass Fiber Extrusion



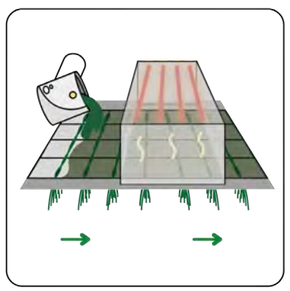
Extrude the color masterbatch into grass fibers and finalize the shape. Multiple times of extrusion may be required according to your needs.

3.Tufting



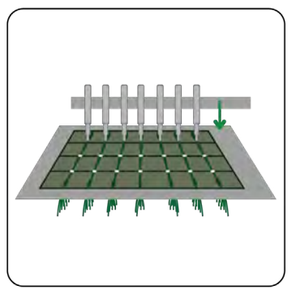
Tufting production process is used to tuft grass fibers from the bottom of the backing. And then perform manual inspection and replenish grass fibers.

4.Coating & Drying



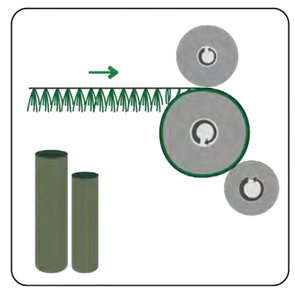
Apply the glue on the backing of artificial grass, flat and dry the glue to make the adhesion between grass fibers and backing firmer.

5.Punching



Equally spaced heat melt drainage holes enable the artificial grass to have good drainage effect during use.

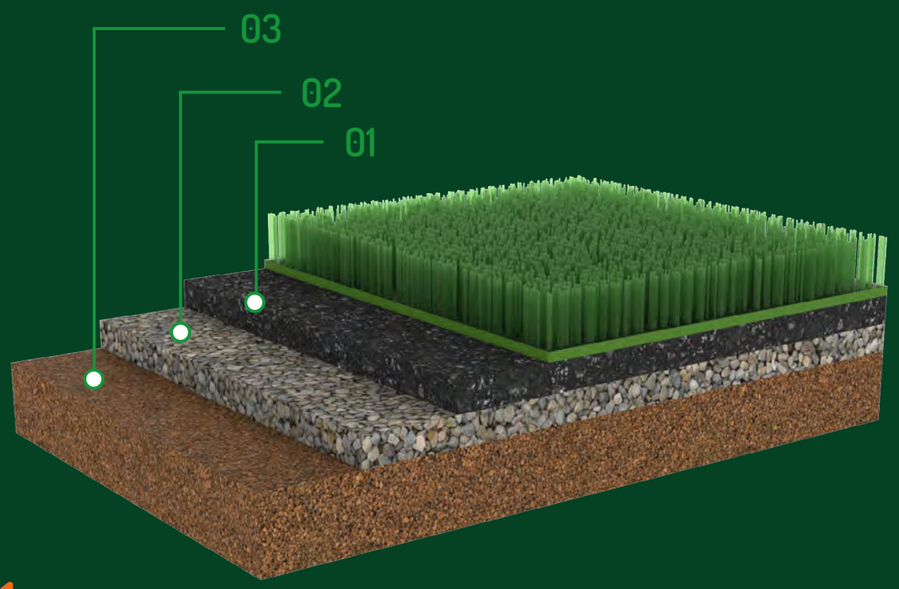
6.Mechanical Rolling



When the hole punching is completed, carry out final inspection and then roll up the artificial grass if everything is OK.

BASE LAYER DESIGN PLAN

Artificial grass base layer is the base paved before laying the artificial grass to ensure that artificial grass is fixed on a flat surface. The base layer is composed of 3 sub base layers. The first layer is existing soil, the second layer is made of hydrophobic gravels and the third layer can be asphalt base, gravel base or cement base, which kind of base is used depends on local climate and your budget.



01.

Optional Underlay

Asphalt

Ordinary asphalt
It is a common choice for asphalt base, and the price is slightly cheaper.

Hydrophobic asphalt.
It features high cost, complex construction and less used. It has good strength and ductility, and is an ideal choice for base layer, especially suitable for regions with a cold climate and a large temperature difference, but the cost is high.

Cement

Good strength, economic and practical, suitable for regions with asmall temperature difference, but poor ductility

Cement stone powder

Short construction period, low cost, good drainage performance, but poor weather resistance, easy to oxidize and cause a uneven ground base.

02.

Prepared Sub Base

Hydrophobic gravel.

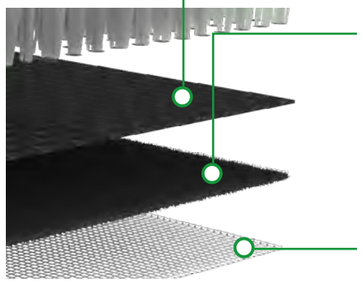
The lowest cost, good drainage performance, but poor rigidity and stability, easy to loosen the substrate after long time use, thus leading to uneven base.

03.

Existing Soil

BACKING OPTIONS

Artificial grass backing is generally composed of 3 layers and is the top layer where artificial grass fibers are sewn on. It features small shrinkage, high tensile strength, no deformation, anti-UV, good anti-aging and smooth cloth surface, which ensures the service life of artificial grass.



PP: It can meet the basic requirements of artificial grass, low price.

Optional Layer

PP woven cloth.
It can meet the basic requirements of artificial grass, low price.

Non-woven fabric.
Moisture-proof, breathable, soft, easy to decompose, non-irritating, recyclable.

PET cloth.
Corrosion resistant and durable, good adhesion to glue and grass fibers.

Grid Cloth

It can meet the basic requirements of artificial grass, low price.

TRADITIONAL COATING VS NEW COATING

Artificial grass coating is a material that holds grass fibers and backing together as a whole. Currently, SBR coating and PU coating are commonly used, PU coating is a little expensive but more effective. In addition, LRGrass has developed new eco-friendly, recyclable coating and recyclable non-adhesive PRT coating.

Coating Types	Traditional Coatings		New Coatings	
	★★ SBR Coating 	★★★ PU Coating 	★★★★ Recyclable Non-Adhesive PRT Coating 	★★★★★ Eco-Friendly, Recyclable Coating 
The Bonding Method Between Grass Fibers and Backing	Gluing	Gluing	Hot melting	Hot melting
Adhesive or Non-Adhesive	SBR coating	PU coating	Non-adhesive	Melting coating
Water Permeability	Perforated hole water permeability – general	Perforated water permeability – general	Direct water permeability – great	Strong turflock
Turflock Capacity	Grass fibers are prone to fall off in moisture conditions.	General	Strong turflock	Strong turflock
Eco-Friendly Performance	Unrecyclable	Unrecyclable	100% recyclable	100% recyclable
Softness	Little hard	Little hard	Soft	Very soft
Thermal Stability	Stable temperature, no expansion	Stable temperature, no expansion	Stable temperature, no expansion	Stable temperature, no expansion
Weight	A little heavy	A little heavy	Lighter	Lightest

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.

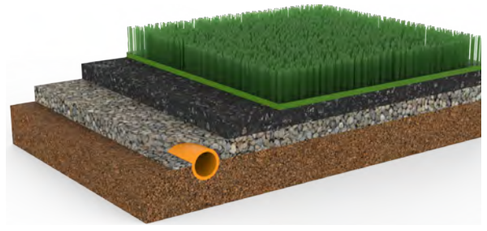
However, if the drainage facilities are not perfect, it will cause water to accumulate in the base layer and cannot be drained out smoothly, leading to the artificial grass base caking and uneven, the whole grass wet and other problems. In addition, it will greatly reduce the service life and field performance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

DRAINAGE SYSTEM RECOMMENDATIONS

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



- 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.

- 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 ±10%.

Channel Drainage

- Suitable for
  It is 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.

- 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.

Drainage gradient
When the base is finished, re-test floor level by 10 × 10m square grid and calculate the drainage gradient. The gradient should be not greater than 0.7% and the deviation shall be less than 1.5%.

Qualified ratio
The qualified ratio for evenness, gradient and level shall reach 85% at least.

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

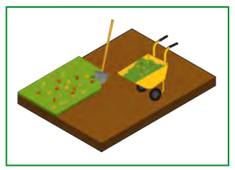
- Hammer, rake, shovel and tape measure
- Utility knife (throw in some spare blades too)
- Artificial grass joining tape (can be found at any major hardware store)

Special tools

- Power blower
- Compactor
- Excavator (if you're going to install the artificial grass to a larger area)

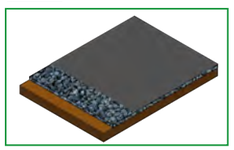
INSTALLATION PROCESS

1 Remove the existing turf



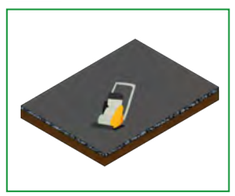
Remove any rocks or sprinklers that may affect the artificial grass installation. Dig to a depth of 70 mm to 80 mm. This is going to be the bed where you'll lay out the artificial turf.

2 Lay the base layer



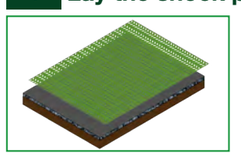
Lay the soil on the existing ground and then pave a layer of hydrophobic gravels and then lay a layer of asphalt or cement.

3 Compact the base layer



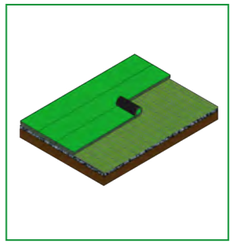
When the base layer laying is finished, compact the base with a compactor to create a perfect base for artificial grass installation. The perfect depth of a sub-base for artificial grass is around 15 mm to 20 mm.

4 Lay the shock pad



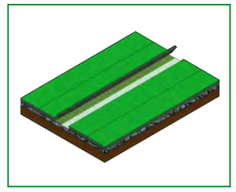
Lay the shock pad to provide users with good elasticity and cushioning effect. It also helps to extend the lifespan of artificial grass.

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

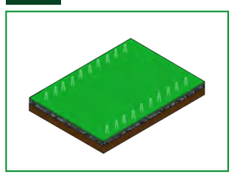


Put the turf tape at the seams between artificial grass pieces to make sure the artificial grass is connected as a whole and firmly secured.

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 turfedges



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

Cleaning

- **Watery stains**

For juice, milk, ice cream, blood stains and other "watery" stains, first scrub with suds, then rinse thoroughly with water where there is soap; blot with a absorbent towel if necessary.

- **Chewing gum**

Spray it into small pieces with an air gun and then remove the residue.

- **Fungus or mold**

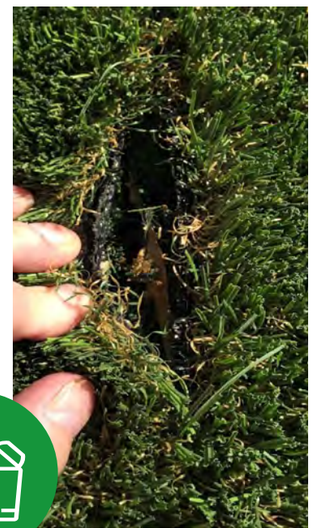
Pour 1% hydrogen peroxide into water, wipe the fungus or mold and then soak with water thoroughly.

- **Stubborn stains & oil stains**

- For shoe polish, sunscreen, ballpoint pen oil, wipe with a sponge dipped in perchlorethylene and blot with a absorbent towel.
- For paraffin, tar and asphalt, wipe with force or wipe with a sponge dipped in perchloroethylene.
- For nail polish, wipe with acetone.
- For paint and coating, wipe with turpentine or paint remover, and clean with detergent and water. Then wash the detergent with cold water and scrub with force, wipe with a sponge dipped in perchloroethylene.

Maintenance

- 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.

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