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USAGE AREAS

Football Training Fields, Professional Football Fields

SYSTEM DESCRIPTION

Hybrid grass is basically a combination of syntheticgrass and naturalgrass, or in other words, natural grass with reinforced lawn combined with artificial grass fibers. According to FIFA, Hybrid Grass is considered100% Natural and is classified as "Reinforced Grass".

FEATURES

The hybrid grass is produced by specially planted seeds to withstand the footballgame and maintained by specialized maintenance machines. Today, the most comfortable football game is played on hybrid grass.

HYBRID GRASS

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TECHNICAL INFORMATION			
Seed Type	The seed will be selected in accordance with the project.		
Total Height	60 mm		
Hybrid Grass			
Base Cloth	Hybrid Grass Backing Hdpe		
Backing	Latex		
Yarn	12.000 / 6 DTEX	290 micron	V shape
Knot Number	6.930 ad/m2		
Yarn Weight	1.150 gr/m2		
Total Weight	1.630 gr/m2		
Adhesive	21 + 4 KG Çift Komponentli Poliüretan Tutkal		
Sand	The appropriate 0-2 mm sand will be used in the area.		

INFRUSTRUCTURE	
Infrustructure	The surface on which the field will be constructed is regulated in accordance with the special elevation of the football field.
Drainage	Drenflex ø160 mm and ø100 mm drainage pipes are laid in accordance with the project elevations.
Drainage Channel Filling	According to the current surface conditions, the channels are tanked with geotextiles. The drainage channels are filled with natural or crushed stone materials in the proper features.
Drainage Layer	It is laid in accordance with the project elevations with a thickness of 20-30 cm as a drainage layer with suitable natural or crushed stone materials.
Vegetation Layer	After laying a 10 cm thick layer of natural sand on the drainage layer, a 15 cm thick mixture of natural sand and pumice is laid on it and compacted with a light roller.
Fertilization Process	After the vegetation process, the fertilization process is performed.

SUPERSTRUCTURE	
Hybrid Grass	Grass carpet rolls that fit project are opened side by side and the joints are cut and matched. Hybrid grass carpet is unfold in a flat and consolidated bottom root zone layer in 4 meter wide rolls. It will be joined with a unique adhesive and there will be no vertical or horizontal barriers to the growth of grass roots.
Game Line	In accordance with FIFA standards, the field lines will be painted with special paint with machine or manually.
Adhesive (haa)	The PU carpet adhesive is prepared. Only the adhesive specified for the hybrid grass is used. The adhesive is slowly mixed in the tube and poured into the adhesive applicator (HAA). The thoroughly mixed adhesive is placed between two hybrid grass carpet pieces, allowing the hybrid grass carpet edge to meet well with the adhesive.
Filling Material	The filling is applied equally through the hybrid grass carpet with special equipment and machines. Then the level correction is performed. The filling spreads over the contours of the area in layers of up to 6 mm to ensure equal span with the drop spreader or the rotary spreader. The filling is completed when it reaches a total depth of 35 mm, measured by a filling test device.
Seed Planting	The proper seed planting process is performed in the area where the implementation is to be performed.
Optional	Setting up the heating system, installing the irrigation system

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KEY BENEFITS	
Performans	Meets FIFA standards, performance close to natural grass, ideal for countries with cold and hot climate.
Key Benefits For Players	Playable 24/7, under almost any circumstance. Optimal parameters for player-surface interaction (friction, rotation resistance, under-foot stabilization, sliding strength, drainage properties).Even when natural grass is worn, it always has a green surface.
Key Benefits For Maintenance Staff	Shorter regeneration time out of season. No divot needed for repair. It only requires attention for minor scars and scratches on the surface. No special maintenance equipment is required. Natural grasses recover quickly during the season and during the regeneration period. Repair can be made easily with only a partial section change.
Key Benefits For Facility Manager	The playing capacity increases up to 1000 hours per year. Play and training can be done on the same surface, reducing the need for additional training fields. The 'always green' surface will guarantee a good visual appearance for users and audiences. Since it provides much higher usage than natural grass surfaces and lasts twice as long as synthetic grass surfaces, the maintenance cost above all is favorable.

HOW HYBRID GRASS WORKS	
Aim Of The Hybrid Grass	Its goal is to provide a protected environment for natural grasses and strengthen grass roots.,Natural grasses are preserved by artificial grass fibers, which cause less damage to the plant and allow for rapid regrowth.
Hybrid Grass	It provides less compression in the bottom root area layer due to the support of the geotextile-acting carpet.
Root	The root system is attached to the artificial grass fibers and is also fixed to the porous back and bottom root zone and protected by the carpet
Artificial Grass	Artificial grass fibers create a micro-climate that increases the regrowth of grass.

ADVANTAGES OF THE HYBRID GRASS SYSTEM
Reduces the amount of wear and tear.
Maintains surface levels and homogeneity.
Increases the strength of the surface sliding.
Increases training hours.
Provides the opportunity to play like on natural grass.
The artificial grass preserves the natural grass and the natural grass protects the artificial grass.
Natural grass preserves the upper parts of artificial grass fibers against wear and tear, extending the life of the carpet for up to 15 years.
Natural grass protects artificial grass from excessive UV degradation.
Natural grass protects the surface from overheating with the rootzone fill.

GENERAL CONDITIONS	
Irrigation	The germination and growth of the grass requires adequate soil moisture levels on the root zone layer. Therefore, it must be increased. Irrigation water should be distributed equally in extra thin drops. Preconditions for irrigation should be determined before seeding. After the initial saturation of the root zone layers, the content of soil moisture must be preserved with sufficiently distributed irrigation.
Fertilization	The growth of the grass surface should be stimulated by adding fertilizer. For fertilization required until delivery, it is recommended to use specific sports field fertilizers with appropriate nutrient levels, taking into account the nutrient reserves in the soil and the seasonal needs of the lawn. By choosing the fertilizer, determining the application rate, and applying it in suitable weather conditions, damage to the grass should be prevented.Selection and fertilizer data options are available upon request.
Format Heights	The grass must be cut up to 12 times before delivery. Mowing should be done at a grass leaf length of 45 mm to 60 mm. Grass must not be cut shorter than 35 mm. The mower must provide a clean trim of equal height. The equipment used must not leave a permanent marks on the grass surface. During humid weather, there should be no movement; the grass clippings should be removed from the area.
Soil Ventilation	After the second trim, the root zone layer must be ventilated up to 100 mm depth using a Verti-drain machine or equivalent
Delivery	The hybrid grass produced by seeding should be equally poised in growth and distribution, which has to provide a 90% soil coverage with the plants of the selected mixture of grass seeds. The last trim before the delivery must not be more than three days old.

MAINTENANCE	
Raking	The reed layer formed on the surface will be opened by raking. Old grass clippings and organic residue will need to be removed to provide adequate surface ventilation. Raking is a standard operation which takes place on a 14-day interval (September to April), depending on the scope of the field usage. If grass clippings are collected during mowing, its frequency can be reduced.
Brushing	For the quality of the grass, the brushing combination (e.g., Speedbrush or static brush) must be applied before the lawn mowing process and in preparation for the match. This corrects the dead plant parts and falling leaves so that it can be cut more effectively by the trimmer. Brushing also makes it easier to apply sand with ventilation from the grass surface. Frequency depends on the extent of field usage: · normal field usage: 3 to 10, per year. · medium field usage: 1 to 2 per month, · high field usage: weekly
Verticut	The verticut process clears the ground surface of dead plant parts that accumulate as organic residue. Operating depth is limited to 0-15mm and should only touch the surface of the root region, not reach the soil. Depending on the weather, the measure may be implemented in spring and fall or until monthly intervals. As a follow-up process, you have to harvest the organic residue with a sweeping machine. Can be done 1 to 4 times per year, but at least once every 5 weeks.
Ventilation	The ventilation relaxes the upper soil and creates gaps to facilitate the exchange of gases. Executing the ventilation: · solid or cross threads, less than 15 mm in diameter, · Depth 10 to 15 cm, · 400 staples / m2.
Sandblasting	The application of sand reinforces the surface structure. The evaluation of the sanding volume depends on the previous maintenance measures. The more operations are performed on the surface of the grass, the higher the volume applied. Sandblasting implementation: • Quantity per implementation is 1 to 3 l/m2, • 1 to 3 frequency per year

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REGENERATION MAINTENANCE	
Aim	· Grass gets younger, · Resists aging and thus decreasing stress resistance, · Maintains the Norm height and smoothness, · Provides the capacity of the hybrid grass supplement.
Basic Regeneration Maintenance	To ensure a fresh and vital grass surface, special equipment is used at the end of the game season to create an old grass and carp, a high-quality seed mixture, and a grass surface rejuvenated by over-seeding.
Intense Regeneration Maintenance	In the aging process, organic material accumulates at the upper millimeters of the surface. Most of the sandblasting's sand sometimes leads to the cover of hybrid grass fibers. With precise operations, the surface is cleaned so that the fibers have a 15 to 20 mm protrusion.
Grass Protection	To prevent surface damage due to fungal pathogens, proper and approved fungicides must be applied to each symptom of the initial suspicion and symptoms. Legal requirements must be complied with.

PACKAGING TYPES	
Felt	It Is Wrapped As Roll Of 2m Width.
Grass Carpet	It Is Wrapped As Roll In 4m Width.
Adhesive	In Buckets Of 21+4 Kg.
Sand	0-2 mm sand, which is suitable in the area, will be used. It is in the form of 50 kg / 1000 kg sacks.
Other	In various ways, its palette is sacks and freeware.

STORAGE CONDITIONS	
Glue And Its Derivatives	In Unopened Packagings, It Can Be Stored For 12 Months From +5 To +30 Degrees.
Other Materials	In Unopened Packagings, It Can Be Stored For 24 Months From +0 To +30 Degrees.

MANUFACTURING AND INSTALLATION TIME			
Infrustructure	Preperation: 1 Day	Construction: 2-7 Days	Cannot Be Applied Simultaneously
Grass Carpet	Manufacturing: 10 Days	Installation: 2-7 Days	Cannot Be Applied Simultaneously
Sand	Manufacturing: 7 Days	Installation: 1-5 Days	Cannot Be Applied Simultaneously
Seed Planting	Supply: 7 Days	Installation: 1-5 Days	Cannot Be Applied Simultaneously

WARRANTY		
Grass Carpet Uv Warranty	5-7 YEARS	5% Tolerance
Grass Carpet Yarn Breaking	5-7 YEARS	10% Tolerance
Sand	5-7 YEARS	15% Tolerance
Application Warranty	2 YEARS	In Case Of Maintenance Agreement (5 Years)

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integral group

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