

AQUA

ECONEXT ARTIFICIAL GRASS

Installation and Maintenance Manual Football, Rugby & Multi Sport - V01

INTRODUCTION:

The installation of the fields must be carried out by qualified personnel.

Each step of the installation and maintenance process must be executed with craftsmanship, following the provided instructions in order to ensure durability and the maximum performance of the turf system over-time.

The selected product, ECO NEXT is characterized by special primaries, composed only with PE and polyolefins and their bonding is crucial. Due to the unique nature of this product, it requires special attention during all installation phases.

1. HANDLING AND STORAGE

1.1 The rolls must be handled with utmost care during all the steps of transport and on-site handling and must be stocked in the right way, in order to avoid any damage.

1.2 Ensure that no sharp objects take contact with the rolls, as they could potentially damage the backing, which is not made of latex but is instead created through heat-welding of various types of primary textiles and is therefore more delicate.

1.3 When the rolls and accessories have arrived at the worksite, they should be unloaded with utmost care and placed in a sheltered area protected from direct sunlight and adverse weather conditions, taking care to arrange the rolls in an orderly and proper manner.



1.4 If the rolls are subjected to transportation, it is important to ensure that the straps do not apply concentrated loads that could crush the rolls.



2. PROPER USE OF INFILL MATERIALS:

2.1 Ensure the use of correct quantities of infill materials for performance and stabilization.

2.2 The type of granulometry of the used infill must match the International Standards. Our technical office will be available to provide any necessary support and confirm the compatibility of the materials you intend to use for this project.



Stabilization infill (sand)



Performance infill

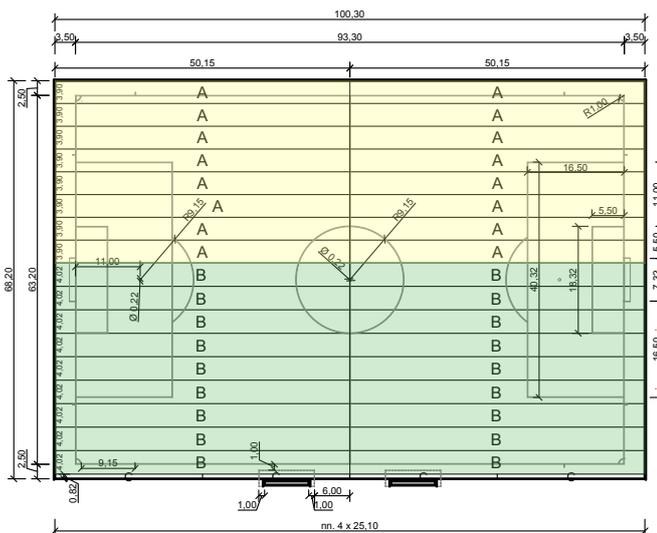
3. LAYING PLAN

3.1 The laying plan that our technical office provided must be carefully followed in order to ensure that the placement of the sheets matches the design of the field.

3.2 The exact following of the drawing is essential to minimize the number of joints, as they could become structural weak points over time, especially if exposed to high-stress areas (center field, penalty area, goal area).

PROPOSAL FOR LAYING PLAN

out of scale



Rolls list	Signature and stamp for acknowledgment and acceptance
<p>Ⓐ n. 16 rolls of 50,15 m x 4,04 (0,01 waste + 3,90 green + 0,12 white + 0,01 waste) to be remove white lines</p> <p>Ⓑ n. 18 rolls of 50,15 m x 4,04 (0,01 waste + 4,02 green + 0,01 waste)</p> <p>Ⓒ n. 1 roll of 25,10 m x 4,04 (0,01 waste + 4,02 green + 0,01 waste) to be devide in four strips of 0,82 x 25,10</p> <p>Total white lines of 0,12 m : 50,15 x 16 = 802,40 m</p>	<p>.....</p>

4. CUTTING, PLACING AND GLUING

4.1 ECO NEXT is made of five different primary materials, and their bonding is crucial. The nature of the product requires special attention during the cutting (trimming) phase of the roll and the joining of the two sheets using the specific junction band on which glue has been applied.



Primari

TNT

Net

4.2 Lay the roll on the subbase with perfect alignment.

4.3 Remove the service thread as it is not necessary for field construction.



4.4 Carefully and precisely align the two sheets to ensure that the distance between the grass tufts on different sheets is perfectly equivalent to all of the tufts present on the rolls.

4.5 Trim the rolls if necessary.



4.6 Apply the glue in the specified quantities on the junction band using specific equipment.

4.7 Pay the utmost attention to ensure that all five primary layers are bonded uniformly if they are not - eventually - solid / joined together.



4.8 After gluing the sheets together, it is necessary to place weights on the joints in order to allow the glue to cure, and maintain these weights for at least 12 hours. This ensures that the glue, tape and the turf have completed the full bonding process.



5. INFILLS DISTRIBUTION

5.1 This procedure should be carried out using suitable mechanical machines with low weight, so the wheels of the equipment do not exert dynamic loads that could potentially disturb the freshly laid turf.

5.2 Exercise extreme caution in the infill distribution process, especially when applying the first layer of stabilization infill (sand).

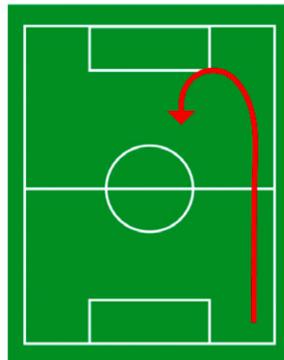
CAUTION:

- DO NOT USE MACHINERY THAT IS TOO HEAVY.
- DO NOT USE HARSH STEEL BRUSHED BECAUSE THEY MIGHT DAMAGE THE YARN.

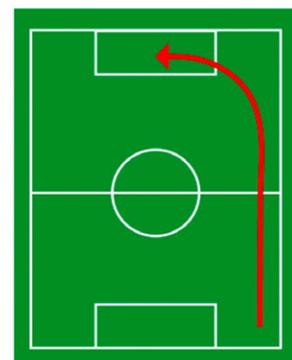
Considering the nature of ECO NEXT technology, particular attention is recommended during the distribution of infills.

Specifically:

- The weight of the cart containing the infill should be reduced, especially during the initial passes, and the rubber wheels should have adequate dimensions to avoid transferring too high a concentrated load onto the surface.
- The tractor should proceed at low speed, avoiding abrupt steering on the field. It should make turns with particularly wide turning radii, especially in areas near the corners and in proximity to each seam of the fabrics and white lines.



X



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- Distribution activities should not take place until 24 hours have passed since the last joint or white line was glued.



For any other recommendations regarding the infill and installation and maintenance procedures, please refer to the installation manual located in section 6 of the technical dossier.

Safitex assumes no responsibility if the correct application procedures outlined in this document and in the synthetic turf installation and maintenance manual are not adhered to.

6. MAINTENANCE

Our synthetic turf systems are the result of long and intense studies regarding the technical and performing characteristics of the natural grass, in order to recreate them on our fields as similar as possible, as regards both the look and the playing characteristics.

The system includes the synthetic grass turf, specifically designed and realized for the different disciplines, and a performance enhancing infill layer consisting in elastic material resting on a stabilizing layer made of sand.

Thanks to a constant research, the elements have been developed in order to create a perfect symbiosis to recreate those technical and performing conditions that can be found on a natural grass field, as ball roll and bounce, adding the fundamental characteristic of the bad weather resistance, that combined to the permeability of the structure to an efficient draining system, allows the intensive use of the field despite any bad weather conditions. In order to enable this kind of performance, it's necessary to regularly run those few maintenance operations necessary for the proper keeping of the optimal working state of the field.

With few simple practices, basic equipment and a contained economic expense, it's as a matter of fact possible to assure the optimal conservation of the artificial turf covering the field, granting to its elevated performing qualities to remain unaltered.

This kind of fields requires indeed a proper maintenance to remain clean and permeable to preserve, during the years, all the performing characteristics that are necessary for the correct execution of the playing performances.



The proper keeping of systems requires the carrying out of ordinary servicing operations, totally under the responsibility of the field managers and weekly fulfilled and occasional specific servicing operations that have to be performed by authorized installers every six months or only if necessary.

The importance of these operations is fundamental as the deterioration that a neglected field would face is basically irreversible and potential repairs are often aesthetically not satisfactory as well as economically really expensive.



The problems connected to the synthetic turf coverings can be due to different causes as various materials that could end up on the field, remaining there without being promptly removed and altering the optimal conditions.

An example of such materials can be represented by some kind of garbage like chewing-gum, cigarette butts or several organic deposits that come from the immediate vicinity of the field like leaves, dead woods, soil, mud, etc.



Another problem that could arise, in case of negligence, is represented by the alteration of the ideal condition of the fibres, situation that could lead to the wear of the fibres bringing to fibrillation, flattening and breaking of the yarns.



A neglected maintenance of the field has repercussions also on the infills present between the fibres, leading to situations of excessive compaction, erosion, collection, penetration between the rolls and blockage of the drainage system.



For this purpose it's important to keep the infill level homogeneous and equitably distributed over the whole playing surface in order to guarantee the technical and performing characteristics in every area of the field.

In particular, the initial period will require a 4 weeks running in order to allow the performing infill of our systems to settle and distribute correctly to be able to recreate the technical characteristics of the game mechanics for which it's expressly designed.

During this period it's possible that some responses from the surface won't result as expected, indeed irregular ball roll, excessive bounds and ground softness together with granules migration may occur.

In this phase it's very important to perform the brushing operation more frequently in order to help the correct compaction and distribution of the infill. For this reason, the field has to be used as many hours as possible, trying to distribute the activity on the whole surface in order to fasten the process.

MAINTENANCE OPERATIONS

The maintenance operations can be divided into categories depending on the frequency of the repetition.

6.1 ORDINARY MAINTENANCE

CLEANING: Gathering and removal of possible debris like leaves, dead woods or stones, or garbage like cigarette butts, chewing-gums, waste papers that could deposit on the field surface, in order to avoid, the alteration of the covering's qualities (waterproofing, wear) as well as the aesthetic and performing ones.

This operation can be executed through blowing or revolving brushing.

BRUSHING: This operation has to be performed through proper machine in order to homogenize the rubber granules distribution.

Unieco Sport warmly advises to perform this operation at medium-high speed, alternating the direction of brushing.

This operation must be done before the wetting of the field or on a dry field anyway in order to avoid that leaves, needles and other materials can compact not allowing the proper cleaning of the surface. Utilize machinery with grass tyres characterized by a low pressure and a specific weight lower than 2.5 kg/cm², and control that they don't unload their exhaust gas directly on the grass and that they aren't subject to any losses of oil, transmission liquids, grease, etc. as these can damage the fibres.



LOCALIZED RELOADING WITH RUBBER GRANULES: Several zones are particularly solicited (penalty and midfield spots, corner zones) bringing often to a lack of infill at their inside, reason why it's necessary to periodically recharge with the infill taking care of its uniform distribution with a simple broom in order to avoid the deterioration of technical and performing characteristics.

6.2 OCCASIONAL AND SPECIFIC MAINTENANCE

CHEMICAL WEED KILLING TREATMENT: The structure of some synthetic turf playing field favour the sprout of weed seeds transported by some birds, or the wind compared to an indoor field.

Some of these plants, if you let them grow, can alter the structure of the turf modifying its durability and performances.

DECOMPACTION: Consequently to bad weather and irrigation operations, the infill can end up compacting, altering the optimal field characteristics causing then excessive rebounds of the ball and a fall in the comfort during sport activity.

So it will be necessary to brush the field with soft bristles monitoring, during the whole operation, the depth of the treatment in order to avoid irreversible damages.

GENERAL INFILL RELOADING: Perform this operation only if required, it depends on several different conditions including the hours of utilization, the frequency of the servicing operations, the kind of product installed.



IRRIGATION SYSTEM CONTROL: The infill migration caused by bad weather conditions or by the playing activity, requires, under determinate conditions, a control in order to verify that the hydrants outlets are free from encumbrances and that they can properly do their job.

Subsequently to ball impacts it's advisable to check, during the irrigation operations, that the sprinklers are correctly positioned.

PERFORMANCE ENHANCING QUALITIES CONTROL: After an intense utilization for long periods, or when the field reaches a certain age, new technical verification could be required in order to check that the technical and performing qualities are within the parameters set.

Through these tests it's possible to verify ball roll and bounce, shock absorption, energy restitution, penetration of the studs if required by the discipline played on the field.

7. SUMMARY TABLE

MAINTENANCE OPERATION	SERVICE	WEEKLY	SIX-MONTHLY	WHEN NECESSARY
ORDINARY	CLEANING	●		
ORDINARY	BRUSHING	●		
ORDINARY	LOCALIZED RELOADING WITH RUBBER GRANULES	●		
OCCASIONAL AND SPECIFIC	CHEMICAL WEED KILLING TREATMENT			●
OCCASIONAL AND SPECIFIC	DECOMPACTION		●	
OCCASIONAL AND SPECIFIC	GENERAL INFILL RELOADING			●
OCCASIONAL AND SPECIFIC	IRRIGATION SYSTEM CONTROL			●
OCCASIONAL AND SPECIFIC	PERFORMANCE ENHANCING QUALITIES CONTROL			●
OCCASIONAL AND SPECIFIC	PERFORMANCE ENHANCING QUALITIES CONTROL			●