



VOGEL
S Y S T E M S

Method Statement

ARTIFICIAL TURF

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INTRODUCTION

The aim of this method statement is to provide effective quality control procedures and to execute the work in compliance to standard and good practice at all stages during the execution of artificial turf on the project site.



PURPOSE

The purpose of this method statement is intended to inform the consulting engineer how the work will be delivered on site associated with risks and precautions to be taken during working on site.

The purpose of this statement:

- To outline how the work will be achieved on site.
- To meet the drawings and specifications requirements.
- To predict possible problems.

SCOPE

- Checking the validity of the substrate on which the surface will be installed (concrete , asphalt , gravel ...etc).
- Surface preparation and making sure moisture ratio less than 5%.
- It is important to perform each step in the process properly .
- Turf rolls are heavy, so make sure you have help and take care when moving them into position.

SPECIFICATIONS CLAUSES

- Project specification.
- Approved shop drawing.
- Contract documents.

TOOLS & EQUIPMENT

- Wheelbarrow



: For moving sand, water, sub-base, etc.

- Around Shovel



For loading and unloading sand, gravel, rubber, etc.

- Rake



For spreading and leveling the substrate and the underlay.

- Stiff Brush



For working in and spreading the optional sand in-fill

- Compactor



A motorized, 14" vibratory plate compactor for compacting the substrate and subbase for smooth, level results

- Heavy Hammer



For driving galvanized nails to hold turf in place (optional)

- Power Brush



For fluffing the pile prior to infilling (optional)

- Pair of Pliers



For removing sprinkler heads
Carpet Knives: Slotted and loop pile for cutting turf (optional)

- Box Knife



For cutting turf.

- Carpet Shears



For trimming fine edges

- Carpet Kicker



For tightening turf and removing wrinkles (optional)

- Leaf Blower



For cleaning up surrounding area

TOOLS & EQUIPMENT

- Shop Vac



For clean up

- Tape Measure



For measuring

- Seed Spreader



For spreading sand infill and Zeolite (optional)

- Lowboy dumpster



For disposal of removed earth, sod, and excess materials

- Contoured Edging



Bender Board edging is easy to bend and shape to create the desired a border

- Sprinkler System Caps



To cap the sprinkler system when the heads are removed

MATERIALS

Artificial turf:

- - 100% Recyclable .
- 100% Monofilament Polyethylene .
- Composed of recycled content
- Lead free, Non-toxic, Anti-microbial
- Made in the turkey.
- 40 mm – 45 mm – 50 mm – 55 mm – 60 mm .

Joint Tape

Adhesive

- Double Components Polyurethane Adhesive

Silica Sand

- 0.2 – 1.0 MM Dried and Baked Round Silica Sand

Granule

- 1 – 3.5 MM Black SBR Rubber Granule without Dust

INSTALLATION PROCEDURES

Base Requirements

- The layout, structural integrity, drainage and planarity are to be checked by owner or architect prior to the commencement of the surfacing work. For general specification for the construction of a track, refer to the American Sports Builders Association (United States Tennis Court and Track Builders Association).
- Before application of the surface course, the asphalt base should be tested for planarity using a 10' straight edge. There shall be no deviation from the specified grade in either the stone or the asphalt in excess of 1/8" in any direction. The lateral slope from outside to inside is to be 1% (a maximum of 2% is allowed for High School standards), and a maximum slope of 0.1% in any running direction.

Preparation

- **Scheduling** – The track shall be installed after the subsurface has been properly prepped and cured. The temperature should be rising during installation of surface.
- **Sub-base** – Asphalt is the safer subfloor for sport floorings for sure and must be always preferred than concrete surfaces. The asphalt must have a slope of 0.7-1% and must dry for at least 21-30 days so that all solvents from the asphalt can evaporate. Asphalt compaction tests are to be provided showing a compaction of 95% or greater.
- **For concrete**, Curing time of concrete is typically 24-48 hours, at which point it's safe for normal foot traffic. After one week, concrete is typically cured enough to handle continued construction including heavy machinery. Concrete is recognized to have reached full strength 28 days after placement.
- For soil, clay, sand, etc., is to be raked and leveled to the required contours, and any protruding large rocks, roots or litter removed. Use a compactor to pack the surface firmly enough – ideally to 90% compaction – so that it will not move around under the turf.
- **Cleaning** – The entire subsurface shall be clean, dry and free from any foreign and loose material such as dirt, oil, grease, etc.



PREPPED SURFACE



ASPHALT



CURING OF CONCRETE

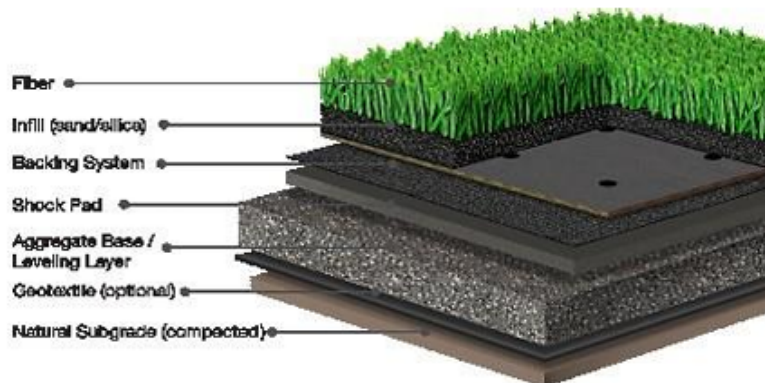


RAKING AND LEVELLING

INSTALLATION PROCEDURES

Installation of artificial turf for football court

- **Sub-base** – The gravel surface will be leveled in a complete anolar form according to the special code of the football field.
- **Felt** – Protective sand-holding material under the grass carpet is spread by wetting it.
- **Shock Pad** – It is optional, the rolls are laid and combined with special tape .
- **Synthetic Grass** – The grass rolls are laid side by side according to the project, and the joints are cut and combined.
- **Field Line** – The field lines are original white-yellow grass carpets cut into 8-12 cm width and laid on the grass field.
- **Joint Tape** – Joint Tape is used to connect grass carpet pieces together.
- **Adhesive** – Thoroughly mixed two-component adhesive is applied to the joint tape and placed between two grass carpet pieces, ensuring that the edges of the grass carpets are in good contact with the adhesive.
- **Silica Sand** – is applied equally to grass carpet with special equipment and machines.
- **Granule** – The rubber granules are then applied equally with special equipment and machines after silica sand, and then the final level correction is made to make the field ready to play game.



HAZARDS

- Whenever nails are used to hold down turf, they should be routinely checked to make sure they are not working out as a result of traffic, earth movement or other causes. Protruding nails can be a potential hazard to people and animals, so drive them back in if they stick their heads up, Always use galvanized nails as they do not rust.

HEALTH AND SAFETY

- Make sure that the workers involved in the installation of the artificial turf flooring are experienced and well trained.
- 2) Every stage of the installation must be supervised properly. Check all the routes of material transportation and remove any form of obstacle that could cause accidents. There should be frequent cleaning during working hours.
- 3) Every equipment used must be maintained in accordance with legal requirements.
- 4) Electrical connections should be handled by qualified and approved electricians.
- 5) The workplace must be barricaded and well protected to prevent unauthorized personnel.
- 6) A work permit must be issued to every person by the main contractor before work starts on the site.
- 7) Appropriate loading and offloading equipment should be provided by the contractor. All the equip, eats should be certified and handled by a qualified operator.
- 8) Always use appropriate PPE including gloves, goggles and a barrier cream to avoid contact with skin and eyes.
- 9) Should contact with skin or eyes occur, wash immediately with plenty of clean water and seek medical advice.
- 10) If swallowed, seek medical attention immediately. Do not induce vomiting.
- 11) inhalation and ensure adequate ventilation or suitable respiratory equipment if working in confined spaces.
- 12) Do not expose products to fire or naked flames under any circumstances
- 13) Always refer to the product Material Safety Data Sheet (MSDS) for full health & safety and handling recommendations.



STORAGE

- Store in dry conditions in the original packs. If stored at high temperatures and/or high humidity conditions the shelf life may be reduced. Materials should be protected from frost.
- Make sure all the pads have the same temperature during the entire installation period. Lay down the pads 24 hours before the installation to allow them to get their original dimensions.
- In order to get the idea application environmental conditions the temperature of the application site place have to be above 4°C for at least 24 hours before the pads application. If the site application has temperature below to 4°C, please keep the pads stored for at let 72 hours before the installation at a temperature above 10°C. Do not install the pads on sites where the temperature is below at 4°C for long time .The pads have to be stored and installed on shadow in order to avoid pads overheating.
- Adhesive and Its Derivative : Unopened packages can be stored between +5 and +30 degrees for 24 months

REPAIRS

- It's always a good idea to keep the scraps left over from your original installation. They can be used to patch any areas that become damaged. While the turf is highly resistant to most normal contaminants and use, strong acids or other chemicals can discolor it, and sharp objects, vehicles, or vandals may damage it.
- Small tears can be repaired by sewing the edges together if they are noticeable. Use a UV resistant and rot proof thread.
- Larger areas may require the offending piece to be cut out and a new piece inserted.
- Cut out the damaged piece, straight edges are easier, but curved, random sides will be less noticeable. If you do random shaped cutouts, place the cutout piece on a piece of newsprint or other paper and trace the outline on it. Then transfer the outline to a new piece of turf (on the back), making sure the turf is aligned the same way for directional grain turf.
- Note: Make sure you transfer it the right way, you don't want a mirror image after you cut it out.
- If the existing turf is just laid down on the underlay, use the seam tape in short sections to join the edges of the new piece to the existing one. Place adhesive on one side of the tape and slip it under the edge of the existing turf. Do this all around the edge.
- Spread adhesive on the exposed tape and carefully place the new piece into position, pressing it down firmly onto the tape.
- Fill the new turf to the same density as the surrounding turf with the infill material.
- If the existing turf is glued to the substrate, then the tape is not necessary, just glue the new piece in place.



QUALITY CONTROL PROCEDURES

GENERAL

- Each activity should be performed by assigned employee within the organization chart .
- Q.C engineer must assure the procedure of insulation.
- Work procedure should follow this method statement and preparatory technical meetings.
- Q.C engineer must follow the area of storage membrane and assure that this area didn't have any conflict with area of storage.

Procedures

- EThe site engineer to inform the area ready for inspection and submitted to Q.C dep.
- The quality engineer checked the activity and assure that the site engineer follow the specs. And the method statement and assure that the work done by the quality system.
- The quality engineer sends I.R to the consultant to inspect the activities according to I.T.P for action.
- In case of approval for the activity the quality engineer gives his guidance to site engineer to start the next activity to achieve the Q/A.
- In case of rejection copy of commented I.R forward to construction DEP. And the Q.C engineer prevents the site engineer to start the next activity even finish all comments existed on I.R.

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