

TurfZone ULTRA55

PART 1 GENERAL

Section 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this section.

Section 1.02 SUMMARY

- A. Furnish all labor, materials, tools and equipment necessary to install slit film artificial turf for football and soccer as indicated on the plans and as specified herein, including:
 - 1. Separation fabric over the prepared subgrade.
 - 2. Drain rock, both coarse and fine.
 - 3. Herringbone drain system on field
 - 4. Synthetic turf system, slit film fibers tufted into a primary backing.
 - 5. Standard lines and markings for football and soccer.
 - 6. Coordination with related trades to ensure a complete, integrated field.

REFERENCES

- A. ASTM – American Society for Testing and Materials.
- B. NFSHSA – National Federation of State High School Associations.
- C. STC – Synthetic Turf Council.
- D. ASBA – American Sports Builders Association

TURF SYSTEM SELECTION

- A. The Owner shall serve as the sole authority in selecting the system to be installed, and in selecting the installation subcontractor. The Owner may waive specification requirements upon review of the submittal packages, bid cost, reference information and proposed schedule.

Section 1.03 SUBMITTALS

- A. Product data:
 - 1. Material description and construction details for each component of the turf system.
 - 2. Turf manufacturer's catalog cuts, MSDS sheets, specifications, and instructions for storage and handling.
 - 3. Fiber manufacturer's name, type of fiber and composition of fiber.
 - 4. Turf manufacturer's instructions for maintenance, including painting of temporary lines.
 - 5. Drain rock percolation rate and gradations.

B. Shop Drawings:

1. Indicate turf layout including seaming plan and details, striping plan, and edge details.
2. Striping plan shall show all field lines, markings, and logos.
3. All submittals shall be provided within 14 days after Notice to Proceed

C. Samples:

1. Turf samples, minimum of 6 in. by 6 in. square, illustrating details of the finished product including all colors planned for this project.
2. Supply to the owner upon request, any samples including but not limited to, turf colors with or without infill material, fiber bones, primary or secondary backing, seaming, selvage etc. Owner shall receive samples within 72 hours of request.

D. Maintenance Data:

1. Maintenance manuals for the synthetic turf system.

E. Warranties:

1. Sample of the manufacturer's warranty shall be submitted with the bid proposal.
2. Warranties shall include the following:
 - a. Complete replacement coverage for a minimum of 5 years.
 - b. Coverage shall include materials and workmanship.
 - c. Repair or replace portions that are no longer serviceable including materials, labor, and related costs.
 - d. Insured by third party. (OPTIONAL)
 - e. No deductibles shall apply to the Owner.
 - f. Shipping, haul off and disposal etc to be included for any "replaced" materials.
 - g. Warranty shall be non-cancelable
 - h. Warranty is to be pre-paid
 - i. Owner shall be named on Certificate of Liability Insurance
 - j. Minimum aggregate of \$5,000,000.00 /yr.
 - k. Unlimited amount per claim
 - l. No "epidemic failure" limitation clauses, restrictions and or exclusions for fiber colors, limitation on use of field or heavy use areas or for other specific areas of the field
 - m. Underwritten by AM Best "A-" or higher rating

Section 1.04 QUALITY ASSURANCE

A. Manufacturer and Installer experience:

1. The turf manufacturer shall provide a list of at least fifteen acceptable installations of TurfZone (minimum of 10,000 sq. ft.) within the past 3 years using products similar to those in this specification. Include name of facility, contact person, and contact phone number.
 - a. The Manufacturer must have ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems.
 - b. Manufacturer shall be an STC certified installer
 - c. Manufacturer shall own and operate its own manufacturing plant. Tufting of the field fibers into the backing materials and coating of the turf system must be done in-house by the turf manufacturer.
 - d. Manufacturer shall provide third party certification confirming minimum requirement of 10 lbs tuft bind.
 - e. Manufacturer shall have a minimum of 20 fields that are at least 8 years old, which is equal to the respective warranty period, with the same infill system.
 - f. Source Limitations: Obtain synthetic turf through one source from a single manufacturer. Any materials (including the fiber itself) manufactured outside of the United States are not acceptable.
 - g. Manufacturer shall have 25 years experience with no insolvency periods.
2. Installers Qualifications:
 - a. The synthetic turf installer shall have installed a minimum of 10 fields of 10,000 square feet or more in the United States utilizing the same synthetic turf product proposed for use on this project.
 - b. Base contractor to be an ASBA Certified Field Builder.
3. Superintendent Qualifications:
 - a. Refer to "Superintendent Information" form to be submitted at the time of bidding. Forms shall be submitted for a minimum of three (3) Superintendent candidates who may be assigned to this project.
 - b. The superintendent assigned to this project shall be present at all times work of any type is being performed.

B. Testing agency:

1. Owner shall employ and pay a qualified independent testing agency to perform field quality control services specified in Part 3 of this section. Retesting of materials failing to meet specified requirements shall be done at Contractor's expense.

C. Prior to beginning synthetic turf installation the manufacturer/installer of the turf

shall inspect the prepared aggregate base and supply the Owner with a Certificate of Acceptance.

Section 1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original packages with seals unbroken and bearing manufacturer's labels indicating brand name and directions for storing.
- B. Store materials in accordance with manufacturer's written instructions for weather protection and minimum and maximum temperatures.

Section 1.06 PROJECT CONDITIONS

- A. Do not apply synthetic turf system over wet, frozen, or excessively damp substrates if prohibited by manufacturer's instructions or warranty requirements.
- B. Proceed with turf installation only when existing and forecasted weather conditions are in accordance with manufacturer's instructions. Where the synthetic turf system is required to fit other construction, verify dimensions of other construction in the field.

Section 1.07 MAINTENANCE

- A. Contractor shall train the Owner's staff in basic maintenance and care procedures
- B. Synthetic Turf Maintenance Personnel:
 - 1. Company specializing in synthetic turf maintenance as specified in this section, with no less than five (5) years of documented experience.
 - 2. The Synthetic Turf Maintenance Personnel shall be fully trained and certified by the Synthetic Turf Manufacturer.
- C. The contractor shall provide an option of 1 year of semi-annual maintenance to be performed at 6 month intervals and coordinated with owner's schedule and shall consist of the following:
 - 1. Inspection, maintenance and repair of all:
 - a. General:
 - (i) Seams
 - (ii) Visual Planarity
 - (iii) Line Straightness
 - (iv) Sub drainage System
 - (v) Perimeter Edge Attachment
 - (vi) Infill Depth (vii) Settlement of Aggregate Base
 - 2. Football:
 - a. Logos
 - b. End zone Lettering
 - c. Side Lines
 - d. End Lines

- e. Goal Lines
- f. 3 Yard Lines
- g. 5 Yard Lines
- h. 1 Yard Hash Marks
- i. Team Box
- j. Restricted Area
- k. Restraining lines
- l. 10 Yard Numbers and Arrows
- m. Inbound Line
- n. Extra point lines
- o. Kick-off markings

3. Soccer:

- a. Touchlines
- b. Goal Lines
- c. Halfway Line -coincidental with 50-yard line for football
- d. Goal Area
- e. Penalty Area
- f. Penalty Mark
- g. Corner Area Radius
- h. Center Circle
- i. Hash Marks

4. Infill Scarification

5. Field Grooming

6. Gmax Testing -9 Point Drop

- a. Gmax testing shall be performed immediately prior to and immediately after all other maintenance services.
- b. In addition to the semiannual Gmax testing, a 9 point Gmax test shall be performed approximately 30 days after completion of the field and after the initial consolidation of the infill material. The report shall be made available to the owner.

7. Inspection, adjusting and repair of the Maintenance Equipment provided to the Owner as part of this project.

8. General Cleaning and Minor Stain Removal

9. Field Sanitary and Health Spray Treatment

10. Static Control Treatment,if necessary

Section 1.10 EXTRA MATERIALS

- A. Upon completion of the turf installation furnish 2,000 lbs. of infill material and all pieces of scrap turf selected by the owner.

PART 2 PRODUCTS

Section 2.01 TurfZone ULTRA55

A. Basis-of-Design: Subject to compliance with requirements, provide “Kiefer U.S.A.”.

1. Contact: 2910 Falling Waters Blvd. Lindenhurst, IL 60046;
Telephone (800)322-5448; Website: www.kieferusa.com.

Section 2.02 MATERIALS

A. Synthetic Turf

1. Fiber: Nylon Monofilament/Polyethylene Slit film
(2 ends per needle) 4,400 Nylon/5,000 XP Pro +
 2. Color: Forrest Green/Field Green
 3. Gauge: 1/4”
 4. Pile Height 7/8”
 5. Face Weight 55 ounce
 6. Primary Back: Dual-layered polypropylene
 7. Secondary Back: 5mm Polyurethane Open Cell Foam
 8. All rolls must exhibit uniform characteristics including, but not limited to: pile direction, color, and pile height.
 9. Colors and Inlaid Markings:
 - a. The synthetic turf playing field lines, event markings, and logos are to be of the same material as the main synthetic turf fields unless substituted to match colors.
 - b. All lines are to be inlaid during the manufacturing process except for cross lines necessary for specific purposes.
 10. The entire system shall be resistant to weather, insects, rot, mildew, fungus growth and should be non-toxic. Weed growth from stray seeds are considered a local occurrence.
 11. The surface shall provide superior traction in all types of weather with the use of composition molded-soles.
 12. The materials used in the turf system shall be selected and or treated to resist UV deterioration and shall be warranted against degradation.
- B. Adhesive for seams and perimeters shall be Mapai 2k, Nordot 34-G, or approved equal.
- C. Seaming Tape shall be OXCO 12 inch or approved equal.

Section 2.03 TESTING

- A. Alternates may be submitted for synthetic turf products meeting the following minimum criteria. Infill material may be sand and rubber, or all rubber providing the finished system meets the Gmax requirements. All other requirements of the synthetic turf section shall apply.
- B. The pile yarn shall have the following physical characteristics:
 - 1. Total Yarn denier 9,400 minimum per ASTM D 1577 (per needle)
 - 2. Breaking load minimum 28 lbs. force per ASTM D 2256.
 - 3. Pile fiber weight 40 oz./sq. yd. minimum per ASTM D 5848.
- C. The finished turf shall possess the following physical characteristics:
 - 1. Finished pile height 7/8" to 1" per ASTM D 5823.
 - 2. Product weight 137 oz./sq. yd. minimum per ASTM D 5848.
 - 3. Primary backing 7 oz./sq. yd. per ASTM D 5848.
 - 4. Secondary backing 75 oz./sq. yd. per ASTM D 5848.
 - 5. Tuft gauge 1/4" per ASTM D 5793.
 - 6. Turf bind strength 8 lbs. minimum per ASTM D 1335.
 - 7. Grab tear strength 200 lbs. minimum per ASTM D 5034.
- D. Infill sand and rubber properties:
 - 1. no-infill required

Section 2.04 MANUFACTURERS

- A. Manufacturers: Subject to compliance with these requirements, available manufactures offering products that may be incorporated into the work include, but are not limited to the following:
 - 1) Kiefer U.S.A.

PART 3 EXECUTION

Section 3.01 MANUFACTURER'S REQUIREMENTS

- A. Manufacturer shall be based in the United States with ISO 9001 certification.
- B. Manufacturer shall be an STC certified supplier.
- C. Manufacturer must test every 5th roll with a calibrated Instron test for ASTM D-1335
- D. Manufacturer must show owner piece of turf from their new field used for Lisport test showing 20,000 cycles before installation is to begin, with fiber loss clippings

Section 3.02 SUB-BASE REQUIREMENTS

- A. Owner or owner's representative shall provide sub-surface in accordance with Manufacturer's recommendation for the project location and application.
- B. All sub-bases shall be approved by Owner or Owner's Representative prior to installation of the safety surface.

Section 3.03 PREPARATION

- A. Scheduling – Synthetic Turf Surfacing shall be installed after other sub-contractors are complete; the area is free from pedestrian traffic
- B. Cleaning – The entire sub-surface shall be clean, dry, and free from litter or foreign material.

Section 3.04 TURF INSTALLATION

- A. Install the synthetic turf system in strict accordance with the manufacturer's instructions. Lines shall be accurately located and straight.
- B. All lines and markings shall be either tufted or cut in during installation.
- C. Panels shall be placed in accordance with manufacturer's instructions. All seams within the entire turf area, including D areas, shall be sewn except where physically impossible or for an inlays such as letters, numbers, and logos.
- D. Infill material shall be placed in lifts to achieve maximum initial consolidation.
- E. Provide test data per ASTM F 1936 to verify that the field meets shock attenuation requirements. Initial Gmax is not to exceed 200 over crushed rock.
- F. Turf contractor shall clean, groom, and test Gmax of the installed surface, if over concrete the owner may need thicker padding.
- G. All designs, markings, layouts and materials shall conform to all currently applicable National Federation of State High School Associations (NFHS) Rules

Section 3.05 CLEANING AND PROTECTION

- A. The Contractor shall keep the area clean, secure throughout the entire project.
- B. Upon completion, the Contractor shall provide all labor, materials, and equipment necessary to leave the surface and installed items clean and ready for use.