



CSI | Attack

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DIVISION 9 Finishes: SECTION 09 68 16 Sheet Carpeting
PLAE Attack – Synthetic Turf

PART 1.0 – GENERAL

1.1 SUMMARY

A. The work of this section includes:

1. PLAE Attack Synthetic Turf Attack Rolls
2. Adhesives

B. Related Sections: Section(s) related to this section include:

1. Concrete Substrate: Division 3 Concrete Section(s)
2. Plywood Substrate: Division 6

1.2 REFERENCES

A. Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title, or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. American Society for Testing and Materials (ASTM):

1. ASTM D5823- Standard Test Method for Tuft Height of Pile Floor Coverings
2. ASTM D5848- Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Coverings
3. ASTM D1335- Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings
4. ASTM D5034- Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)
5. ASTM F2765- Standard Specification for Total Lead Content in Synthetic Turf Fibers
6. ASTM F1577- Standard Test Methods for Linear Density of Textile Fibers
7. ASTM 2256- Standard Test Method for Tensile Properties of Yarns by the Single-Strand Method
8. ASTM D7138- Standard Test Method to Determine Melting Temperature of Synthetic Fibers
9. ASTM D5793- Standard Test Method for Binding Sites per Unit Length or Width of Pile Yarn Floor Coverings
10. ASTM 2859- Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
11. ASTM 3218- Standard Specification for Polyolefin Monofilaments

1.3 SYSTEM DESCRIPTION

A. Performance Requirements: Provide synthetic turf flooring, which has been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage, or failure.

1.4 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section



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- B. Product Data: Submit product data, including manufacturer's guide specifications product sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including anchorage, accessories, finish colors, patterns, and textures.
- D. Samples: Submit selection and verification samples for finishes, colors, and textures.
- E. Quality Assurance Submittals: Submit the following:
 - 1. Certificates: If required, certification of performance characteristics specified in this document shall be provided by the manufacturer.
 - 2. Manufacturer's Instructions: Manufacturer's installation instructions.
- F. Closeout Submittals: Submit the following:
 - 1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operational Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
 - 2. Warranty: Warranty documents specified herein.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
 - 2. Manufacturer's Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.
- B. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's instructions, and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

1.6 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Storage and Protection: Store materials at temperature and humidity conditions recommended by manufacturer and protect from exposure to harmful weather conditions.

1.7 PROJECT CONDITIONS

- A. Temperature Requirements: Maintain air temperature in spaces where products will be installed for time period before, during, and after installation as recommended by manufacturer.



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during, and after installation as recommended by manufacturer.

B. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.8 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and not a limitation of, other rights owner may have under contract documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

1. Warranty Period: (Specify term) years commencing on date of substantial completion.

1.9 MAINTENANCE

A. Extra Materials: Deliver to owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section.

Specifier Note: Revise paragraph below specifying size and percentage as required for project.

1. Quantity: Furnish quantity of synthetic turf flooring units equal to (specify %) of amount installed.

2. Delivery, Storage, and Protection: Comply with owner's requirements for delivery, storage, and protection of extra materials.

3. Cleaning: Furnish flooring manufacture's neutral cleaner for initial cleaning and maintenance of the finished floor surface.

PART 2.0 – PROPRIETARY PRODUCTS

2.1 MATERIALS AND ATTRIBUTES

A. Polyethylene monofilament fiber, stabilized dual-woven polypropylene primary backing, and 5mm urethane foam secondary backing. Durable blades offer exceptional ball roll/bounce and eliminate post fibrillation. Attack feels softer to the touch than turf with polypropylene fibers. Pile's omnidirectional curl eliminates matting and resists weather, rot, mold, mildew, and fungus growth.

2.2 Proprietary Products

1. PLAE Attack 5mm Foam Backing consisting of 14mm Fiber Pile Height with a 5mm Urethane Foam Backing
2. PLAE Anchor two part urethane adhesive.

2.2.1 Attack 5mm Turf Flooring

PERFORMANCE	STANDARDS	AVG. TEST RESULTS	
		IMPERIAL	METRIC
Pile Height (Nominal)	D5823	0.75in	1.9cm
Face Weight	D5848	48oz/sq. yard	1,628g/sq. m
Total Fabric Weight	D5848	135oz/sq. yard	4,578g/sq. m
Primary Backing Weight	D5848	7oz/sq. yard	238g/sq. m



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Secondary Coating Weight	D - 5848	80oz/sq. yard	2713g/sq. m
Tuft Bind	D - 1335	Greater than 8lbs.	Greater than 3.63 kg
Grab Tear Strength (Average)	D - 5034	Greater than 200lbs.	Greater than 91 kg
Lead Content	F - 2765	Less than 50ppm	Less than 50ppm
Total Yarn Linear Density	D - 1577	5,400 Denier	5,940 dtex
Elongation to Break	D - 2256	Greater than 60%	Greater than 60%
Yarn Breaking Strength	D - 2256	Greater than 19lbs.	Greater than 8.62kg
Yarn Melting Point	D - 7138	248°F	120°C
Stitch Rate	D - 5793	3in	7.62 cm
Machine Gauge	D - 5793	3/16in	0.476 cm
Flammability	D - 2859	Passed	Passed
Fiber Thickness (Primary/Secondary)	D - 3218	3.9mils	100 microns
Fabric Width	None	15'	4.6 m

2.2.2 PLAE Anchor Two Part Urethane Adhesive:

A. Product Name:	PLAE Anchor - Part A	PLAE Anchor - Part B
B. Material:	Anchor is a two-component urethane moisture cured, non-sag permanently elastic adhesive that has excellent adhesion to elastomers, concrete, and wood and is engineered for indoor and outdoor applications.	Anchor is a two-component urethane moisture cured, non-sag permanently elastic adhesive that has excellent adhesion to elastomers, concrete, and wood and is engineered for indoor and outdoor applications.
C. Adhesive Type:	Two component urethane	Two component urethane
D. Adhesive Cure System:	Moisture cured	Moisture cured
E. Weight:	28 lbs	4.9 lbs
F. Color:	Green	Dark Brown
G. VOC Content:	0 lb/gal calculated	0 lb/gal calculated
H. Freeze/Thaw:	Stable	Stable
I. Application Temp:	32°F - 100°F	32°F - 100°F
J. Relative Humidity (RH) Test:	100%	100%
K. Flashpoint	127°C / 261°F	201°C / 394°F
L. Shelf Life:	24 Months	24 Months
M. Working Time:	Approx. 30 minutes	Approx. 30 minutes
N. Trowel:	Sports Flooring #15 3/32" x 3/32" x 3/32"	Sports Flooring #15 3/32" x 3/32" x 3/32"
P. Coverage Rate:	up to 130 sf/gal	up to 130 sf/gal

2.3 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

2.4 RELATED MATERIALS

A. Related Materials: Refer to other sections listed in Related Sections paragraph herein for related materials.



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PART 3.0 – EXECUTION

3.1 GENERAL

- A. The installation shall be performed in full compliance with approved shop drawings.
- B. Only factory-trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the synthetic turf manufacturer's installation supervisors shall undertake the placement of the system.
- C. The surface to receive the synthetic turf shall be inspected and certified by the turf manufacturer as ready for the installation of the synthetic turf system and must be perfectly clean as installation commences and shall be maintained in that condition throughout the process.

3.2 INSTALLATION

- A. Surface Preparation: [Specify applicable product preparation requirements.] Refer to manufacturer's recommended installation details and requirements for subfloor preparation.
- B. The Turf Project Superintendent shall thoroughly inspect all materials delivered to the site for both quality and quantity to assure that the entire installation shall have sufficient materials to maintain the schedule and proper mixing ratios.
- C. Weather/climatic conditions may be a factor in delay of installation, but shall not warrant the accrual of additional liquidated damages. Should the ambient outdoor temperature fall below 45 degrees Fahrenheit, the Turf Contractor and Owner will discuss available options and/or stoppage of work. However, the final decision shall be at the Turf Contractor's discretion.

3.3 FIELD MARKINGS AND DECORATIONS

- A. Field markings and decorations shall be installed in accordance with approved project shop drawings.

3.4 CLEAN UP

- A. All usable remnants of new material shall become the property of the Owner.
- B. The Turf Contractor shall keep the area clean throughout the time of installation and clear of debris.