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**DIVISION 9 - SECTION 09 68 13
PlayGuard Turf Tile 2**

PART 1.0- GENERAL

1.1 SUMMARY

- A. The work of this section includes:
 - 1. PlayGuard 2-1/2" Turf Tile 2
 - 2. PlayGuard Quad Blok Connectors
 - 3. PlayGuard PolyFoam
 - 4. 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 D1335 Tuft Bind
 - 2. ASTM D5034 Tear Strength
 - 3. ASTM D7138 Yarn Melting Point
 - 4. ASTM D2859 Flammability
 - 5. ASTM F1292 Critical Fall Height
 - 6. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
 - 7. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
 - 8. South Coast Air Quality Management District (SCAQMD) Rule #1168 (VOC standards for adhesive and sealant applications)

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide product 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.
- B. LEED: Provide documentation of how the requirements for credit will be met.
 - 1. List of proposed materials with recycled content. Indicate pre-consumer and post-consumer content.
 - 2. Product data and certification letter indicating percentage of recycled content for both pre-consumer and post-consumer content.
 - 3. Recycled content is defined in accordance with the International Organization for Standardization document, ISO 14021 Environmental labels and declarations.
 - a. Post-consumer material - waste materials diverted from the waste stream after consumer or commercial use.
 - b. Pre-consumer material - materials diverted from the waste stream during the manufacturing process. Excluded are regrind, rework, and scrap.
- C. Product Data: Submit product data, including manufacturer's guide specifications product sheet, for specified products.
- D. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors, patterns, and textures.
- E. Samples: Submit selection and verification samples for finishes, colors, and textures.
- F. Quality Assurance Submittals: Submit the following:
 - 1. Provide Manufacturer's current installation guidelines as published by the Manufacturer.
 - 2. Certificates: If required, certification of performance characteristics specified in this document shall be provided by the Manufacturer.
 - 3. Manufacturer's Field Reports: Manufacturer's field reports specified herein.
- G. 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. Design and Detailing
 - 1. Refer to manufacturer's technical and installation manual for approved substrates and installation techniques.
- B. 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.
 - a. Certificate: When requested, submit certificate indicating qualification.
 - 2. Manufacturer's Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.
- C. Mock-Ups: Install at project site a job mock-up using acceptable products and Manufacturer-approved installation methods. Obtain Owner and Architect's acceptance of finish color, texture and pattern, and workmanship standard. Comply with Division 1 Quality Control (Mock-Up Requirements) Section.
 - 1. Mock-Up Size: As specified
 - 2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.

3. Incorporation: Mock-up may be incorporated into final construction upon Owner's approval.
- D. 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.
- E. Pre-installation Testing: Conduct pre-installation testing to comply with manufactures technical manual.

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: Adhesive application and tile installation shall be at temperatures above 40° F and below 100° F.
- 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.
 1. Warranty Period: Specify 5 Year pro-rated warranty.

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.
 1. Quantity: Furnish quantity of recycled rubber flooring with units equal to a minimum of 5% of amount installed.
 2. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage, and protection of extra materials.

PART 2.0 - PROPRIETARY MANUFACTURER/PRODUCTS

2.1 MANUFACTURER: Ecore

- A. Address: 715 Fountain Ave., Lancaster, PA 17601; Telephone: (800) 322-1923, (717) 295-3400; Fax: (717) 295-3414; Email: info@ecoreintl.com

2.2 PROPRIETARY PRODUCT(S)

1. PlayGuard Turf Tile
2. PlayGuard Quad Blok Connectors
3. PlayGuard PolyFoam Compressed Foam Cushion Underlayment

4. E-Grip III™ single-component, zero VOC, urethane adhesive

2.3.1 PlayGuard 2 ½" Turf Tile 2

A. Product Name:	The traditional Turf Tile 2 furnished under this specification shall be PlayGuard Turf Tile
B. Material	Nylon turf wear layer molded to a 100% post-consumer recycled rubber base.
C. Tile Dimension	Nominal overall thickness of 2-1/2", Width: 24" Length: 24" Turf wear layer thickness of 13mm
D. Tile Tolerances	Tile width: +/- 1/8" Tile height: +/- 1/8"
E. Tile Weight	27 lbs/tile
F. Tile Color	Green
G. Critical Fall Height (ASTM F1292)	Tile only: 5 ft. Tile with PolyFoam underlayment pad: 11 ft.
H. Tuft Bind (ASTM D-1335)	>8 lbs surface layer only
I. Tear Strength (ASTM D-5034)	>200 lbs surface layer only
J. Grab Tear Strength (ASTM D5034)	>200 lbs.
K. Yarn Melting Point (ASTM D-7138)	248 F°
L. Flammability (ASTM D-2859)	PASS

2.3.2 Quad Blok 8" x 8" Playground Tile Connection System

A. Product Name:	Quad Blok 8" x 8"
B. Material	Quad Blok is a formulation of high quality post consumer recycled rubber granules encapsulated in a wear and water-resistant elastomeric network.
C. Material	Made from 100% post-consumer recycled rubber.
D. Quad Blok Dimension	8" x 8" x 11/16" (20.32 cm x 20.32 cm x 17mm) at 72° F
E. Quad Blok Weight	.70 lbs. each
F. Colors	Black
G. Density (ASTM D297)	46 lbs. / cu. Ft. minimum
H. Tensile Strength (ASTM D412, Die C)	116 psi. minimum
H. Elongation (ASTM D412, Die C)	74% minimum
I. Compression	@50 psi – 15% @100 psi – 28% @200 psi – 45%
J. Shore A Hardness (ASTM D2240)	50 +/- 5points
K. Tear Strength (ASTM D624, DIE C)	30 PPI
L. Flexibility (ASTM F147)	0 -1 Factor
M. Compression Set B (ASTM D395)	26% (25% deflection, 22 hours, 158° F)
N. Compression Set (Foam) (ASTM D395)	19% (50% deflection, 22 hours, 158° F)

2.3.3 PlayGuard PolyFoam Cushion Underlayment

A. Product Name:	The rubber safety surface furnished under this specification shall be PlayGuard 2-1/8" PolyFoam Cushion Underlayment Pad
B. Material	99% Polyethylene closed cell foam with geotextile fabric surface.
C. Pad Dimension	Nominal overall Thickness: 2 1/8" Width: 4ft, Length: 6ft
D. Pad Tolerances	Thickness: +/- 1/8" (3.2mm)
E. Pad Weight	.85 – 1.2 lbs sq/ft ²
F. Critical Height (ASTM F1292)	11 ft. with 2-1/2" Turf Tile

2.3.4 E-Grip™ III One-Component Urethane Adhesive

A. Product name:	The one-part adhesive under this specification shall be Ecore's E-Grip III one-component urethane adhesive.
B. Material:	E-Grip III is a one-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:	One-component urethane
D. Adhesive Cure System:	Moisture cured
E. Weight:	4 gallon pail – 56 pounds 2 gallon pail – 28 pounds 10.1 oz. cartridge
F. Color:	Medium gray
G. VOC Content:	0 lbs./gal. calculated
H. Freeze/ Thaw:	Stable
I. Application Temperature:	40° F - 100° F
J. Calcium Chloride Test: (ASTM F1869)	Maximum 5.5 lbs. per 1,000 sq. ft. in 24 hrs.
K. Flash Point:	>500° F
L. Shelf Life:	12 months
M. Working Time:	30 – 40 minutes
N. Trowel:	1/8" x 1/8" x 1/8" square notch trowel
O. Coverage Rate:	60 ft ² / gal. – 1/8" x 1/8" x 1/8" square notch trowel
P. SCAQMD Rule #1168	0 lbs. / gal. calculated

2.4 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

2.5 RELATED MATERIALS

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

2.6 SOURCE QUALITY

- A. Source Quality: Obtain recycled rubber resilient flooring materials from a single manufacturer.

PART 3.0– NON - PROPRIETARY MANUFACTURER/PRODUCTS

3.1 MANUFACTURER: None

3.2 NON – PROPRIETARY PRODUCT: None

3.3 PRODUCT SUBSTITUTIONS: N/A

PART 4.0- EXECUTION

4.1 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with Manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

4.2 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with Manufacturer's instructions.

4.3 PREPARATION

- A. Surface Preparation: Comply with the manufacturer technical manual

4.4 ERECTION/INSTALLATION/APPLICATION/CONSTRUCTION

- A. Recycled Rubber Flooring Installation: Comply with the manufacturer technical manual for installation procedures and techniques.
- B. Finish Color/Textures/Patterns: [specify installation finishes coordinated with finishes specified in Part 2 Products].
- C. Related Products Installation: Refer to other sections listed in Related Sections paragraph herein for related products installation.

4.5 FIELD QUALITY REQUIREMENTS

- A. Manufacturer's Field Services: Upon Owner's request, provide Manufacturer's field service consisting of product use recommendations.
 - 1. Site Visits: As required pending Owner's product selection

4.6 CLEANING

- A. Cleaning: Clean installed products in accordance with Manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

4.7 PROTECTION

- A. Protection: Protect installed product and finish surfaces from damage during construction and prior to Owner's acceptance.

4.8 SCHEDULES

- A. Schedules: As specified per project requirements.

END OF SECTION