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XtremeTile®
Guide Specifications
Division 9 – Indoor Resilient Recycled Rubber Athletic Surfacing
Revised 08-13-10

PART 1.0 – GENERAL

1.1 SUMMARY

A. The work of this section includes:

1. XtremeTile® 1" thick Recycled Rubber Molded Tiles
2. Adhesives

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

1. The work specified in this Section consists of the installation of XtremeTile® in accordance with these specifications, and in conformity with the dimensions and notes shown in the plans.

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 D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers – Tension.
2. ASTM F137 Standard Test Method for Flexibility of Resilient Flooring Materials with Cylindrical Mandrel Apparatus.
3. ASTM F970 Standard Test Method for Static Load Limit.
4. ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as measured by the James Machine.
5. ASTM F925 Standard Test Method for Resistance to Chemicals of Resilient Flooring.
6. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
7. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
8. ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission through Floor-Ceiling Assemblies Using the Tapping Machine.
9. ASTM E413 Classification for Rating Sound Insulation.
10. ASTM E2129 Standard Practice for Data Collection for Sustainability Assessment of Building Products
11. ASTM D5116 Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products.

12. ASTM F150 Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring.
13. ASTM D297 Standard Practice for Rubber Products – Chemical Analysis.
14. ASTM D3676 Standard Specification for Rubber Cellular Cushion used for Carpet or Rug Underlay.
15. ASTM D395 Standard Test Methods for Rubber Property – Compression Set.
16. ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
17. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
18. ASTM F1292 Standard Specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment.

C. American Association of Textile Chemists and Colorists

1. Technical Manual 134 Electrostatic Propensity of Carpets

D. Federal Test Method Standard 101B Test Methods for Packaging Materials

1. Method 4046 Electrostatic Properties of Materials

E. Collaborative of High Performance Schools (CHPS) Section 01350

1. Low-emitting materials criteria for use in a typical classroom

F. South Coast Air Quality Management District (SCAQMD) Rule #1168

1. VOC standards for adhesive and sealant applications

G. Leadership in Energy and Environmental Design - LEED®

1. International Organization for Standardization® document, ISO 14021 – Provides guidance on the terminology, symbols, testing, and verification methodologies that an organization should use for self-declaration of the environmental aspects of its products and services.

1.3 SYSTEM DESCRIPTION

A. Performance Requirements: Provide recycled rubber resilient 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.

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. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.

2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics, criteria, and physical requirements.

3. Manufacturer's Instructions: Manufacturer's Installation Guidelines.

G. Closeout Submittals: Submit the following:

1. Care & Maintenance Information: 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.

B. Regulatory Requirements: (Specify applicable requirements of regulatory agencies.)

C. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's instructions, and manufacturer's warranty requirements.

D. Pre-installation Testing: Conduct pre-installation testing as follows: (Specify substrate testing; consult with flooring manufacturer.)

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 delays.

C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels.

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.

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 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 term) years commencing in 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.
1. Quantity: Furnish quantity of recycled rubber 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.

PART 2.0 – MANUFACTURER (SUPPLIER) /PRODUCTS

2.1 SUPPLIER: Moose Sports Surfaces, Ltd.

A. Address: 2257 N. Wayne Avenue, Chicago, IL 60614. Phone: 773-477-4664. Fax: 773-477-8248. Email: info@moosesports.com

2.2 PRODUCT(S):

A. XtremeTile® Recycled Rubber Molded Tiles and Adhesives supplied by Moose Sports Surfaces, Ltd. for indoor applications.

1. XtremeTile® 1" Thick Recycled Rubber Molded Tiles
2. E-Grip™ III, a one-component polyurethane adhesive

2.2.1 XtremeTile® 1" Thick Recycled Rubber Molded Tiles

A. Product Name: The factory molded modular surfacing system furnished under this specification shall be Moose Sports Surface, Ltd. XtremeTile® 1" Thick Recycled Rubber Molded Tiles.

B. Physical Description: 1" Thick XtremeTile® configurations consist of a high density, wear surface; cylindrical support feet that allow underside cable routing, maximum resiliency, and water drainage, as well as twelve molded perimeter dowel holes that accept specially designed barbed dowel pins to promote ease of installation.

C. Material: Made from 100% recycled SBR (Styrene-Butadiene Rubber) tire rubber and EPDM granules bound in both underlayment and wear surfaces with a wear resistant polyurethane.

D. Component Description: 1" Thick XtremeTile® is a factory-molded surface composed of high quality rubber granules bound with a wear resistant polyurethane. The polyurethane binder is composed of MDI (diphenylmethane diisocyanate) isocyanate and polyether (polypropylene glycol) polyols. TDI (toluene diisocyanate) isocyanate or catalysts based on lead or mercury are not utilized. Rubber granules are blends of ground rubber particulates specially blended to enhance tile strength, durability, and energy absorption characteristics. All coloring pigments are inorganic oxides. Pigments based on cadmium are not utilized.

E. Tile Dimension: XtremeTile® shall be 24" x 24" and have an overall thickness of 1".

F. Tile Weight: 4.0 lb/ft² (19.5 kg/m²).

G. Tile Standard Tolerances: Width: ± 2 mm. Thickness: ± 3 mm.

H. Colors: Specify color from manufacturer's standard colors, custom colors, or special logo/graphic inlays.

I. Wear Surface Density: 60.0 lbs/cu. ft. min.

J. Coefficient of Thermal Expansion: 1.10×10^{-3} in./ft.-°F.

K. Void Volume: 13% min.

L. Water Permeation Rate: 0.045 cm./sec.

M. Tear Resistance: 13.13 kN/m (ASTM D624, Die C).

N. Abrasion: .1 or 0.20 mg loss/cycle (ASTM D3389, 2000 cycles, H18 Wheels).

O. Accelerated Aging: 105% Tensile Retention, 87% Elongation Retention (DIN 1835 Part 6, 2000 hrs. H18 Wheels).

P. Tensile Strength: (ASTM D412) 200lb/in² min.

Q. Flexibility: (ASTM F137) pass ¼" mandrel.

R. Static Load Limit: (ASTM F970) 400 lb/in² < 0.005 in.

S. Coefficient of Friction: > 0.9 (ASTM D2047).

T. Chemical Resistance: (ASTM F925):

5% Acetic Acid: no change

70% Isopropyl Alcohol: no change

5% Sodium Hydroxide: no change

5% Hydrochloric Acid: no change

5% Ammonia: no change

Bleach: no change

5% Phenol: no change

Sulfuric Acid: no change

U. Noise Reduction. Coefficient: (ASTM C423) 0.10 sabine/ft².

V. Thermal Conductivity: (ASTM C518) approximately 0.406 Btu-in/hr-ft²-°F.

W. Impact Insulation Class: (ASTM E492) 49.

X. Sound Transmission Coefficient: (ASTM E413).

Y. Sustainability: data collected (ASTM E2129).

Z. VOC Washington pass State IAQ Test: (ASTM D5116). AA. CHPS/CA 01350: pass. (ASTM D5116).

2.2.2 E-Grip™ III One-Component Polyurethane Adhesive

A. Product Name: The one-part urethane adhesive under this specification shall be E-Grip™ III one component polyurethane adhesive.

B. Material: E-Grip III is a one-component polyurethane moisture cured, nonsag, 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 polyurethane.

D. Adhesive Cure System: moisture cured.

E. Weight: 4 gallon pail - 56 lbs. 2 gallon pail - 28 lbs.

F. Color: medium grey.

G. VOC Content: 0 lb/gal calculated.

H. Freeze/Thaw: stable.

I. Application Temperature: 40° F - 100° F.

J. Calcium Chloride Test: Maximum 5.5 lbs per 1,000 sq. ft. in 24 hrs. (ASTM F1869).

K. Flashpoint: > 500° F.

L. Shelf Life: 12 months.

M. Working Time: 30-40 minutes.

N. Trowel: 1/16" square notched trowel.

O. Coverage Rate: 95 ft² per gallon (1/16" square notched trowel).

P. SCAQMD Rule #1168: 0 lb/gal.

Q. For indoor installation on concrete or plywood subfloors only. See Installation Manual for instructions.

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 - EXECUTION

3.1 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.

3.2 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.

3.3 PREPARATION

A. Surface Preparation: (Specify applicable product preparation requirements.)

3.4 ERECTION / INSTALLATION / APPLICATION / CONSTRUCTION

A. Recycled Rubber Flooring Installation: Comply with Installation Manual for installation procedures and techniques for XtremeTile® recycled rubber resilient flooring installation.

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.

3.5 CLEANING

A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's Care & Maintenance Instructions prior to Owner acceptance. Remove construction debris from project site and legally dispose of debris.

3.6 PROTECTION

A. Protection: Protect installed product and finish surfaces from damage during construction.