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**DIVISION 9 Finishes - SECTION 09 65 00 Resilient Flooring  
Aurora Virgin Rubber**

**PART 1.0- GENERAL**

1.1 SUMMARY

- A. The work of this section includes:
  - 1. Aurora – sheet virgin rubber bonded to a Vulcanized Composition Rubber backing
  - 2. Aurora – unbacked sheet virgin rubber flash coving
  - 3. Welding rod accessories
  - 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 F970 Standard Test Method for Static Load Limit
  - 2. ASTM F2753 Standard test Method for Dynamic Rolling Load
  - 3. ASTM F1514 Resistance to heat
  - 4. ASTM F1515 Resistance to light
  - 5. ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as measured by the James Machine
  - 6. ASTM D2240 Standard Test Method for Rubber Property—Durometer Hardness
  - 7. ASTM E648 Behavior to fire
  - 8. ASTM D6962 Standard Practice for Operation of a Roller Chair Tester for Pile Yarn Floor Coverings
  - 9. ASTM F2199 Dimensional stability
  - 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 F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
  - 13. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes

14. ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine
  15. ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
  16. ASTM E2179 Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors
- C. International organization for Standardization (ISO )
1. ISO 105-B02 Textiles – Test for color fastness
- 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 premium sheet rubber fusion bonded to a Vulcanized Composition Rubber backing, 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. 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.

**Specifier Note:** Coordinate paragraph below with Part 3.5 Field Quality Requirements Article herein. Retain or delete as applicable.

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. 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.

**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. Regulatory Requirements: [specify applicable requirements of regulatory agencies].

- B. 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: [specify mock-up size].
  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.
- C. 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.
- 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 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.
- 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 5 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.
  1. Quantity: Furnish quantity of resilient 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 - PROPRIETARY MANUFACTURER/PRODUCTS

**Specifier Note:** Retain article below for proprietary method specification. Add product attributes performance characteristics, material standards, and descriptions, as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal, and regulatory) and assignment of responsibility for determining "or equal" products.

#### 2.1 MANUFACTURER: Ecore International™

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

#### 2.2 PROPRIETARY PRODUCT(S)

- A. Ecore Commercial. Flooring and adhesives manufactured by Ecore International for commercial applications.
  1. Aurora - Sheet virgin rubber bonded to a Vulcanized Composition Rubber backing and accessories
  2. Aurora – Unbacked sheet virgin rubber flash coving
  3. E-Grip™ III a single-component, zero-VOC, urethane adhesive

#### 2.3.1 Aurora - Vulcanized Composition Rubber-Backed Virgin Rubber [Sheet] Flooring

- |  |   |
|--|---|
| A. Product Name:                         | The virgin rubber surface fusion bonded to a Vulcanized Composition Rubber surface furnished under this specification shall be Ecore's Aurora distributed by Ecore Commercial.  |
| B. Material:                             | Vulcanized Composition Rubber granules encapsulated in a wear and water-resistant elastomeric network, fusion bonded to virgin rubber.  |
| C. Sheet Dimension:                      | Aurora will have an overall nominal thickness of 7mm, consisting of a 5mm 6015H rubber backing, fusion bonded to a 2mm virgin rubber surface layer. Standard roll size is Nominal 58 inches wide by 30 LF [1.47 M by 9.14 M]. Custom lengths not available. |
| D. Sheet Weight:                         | Nominal 1.48 lbs. per sq. ft.   |
| E. Sheet Standard Tolerances:            | Width: +3/4" - 0"   Length: +1% - 0"   Thickness: ± 0.5 mm  |
| F. Colors:                               | Specify color from manufacturer's standard colors.  |
| G. Static Load Limit (ASTM F970):        | ≤ 0.003" @ 250 lbs.   |
| H. Hardness Shore A (ASTM D2240)         | >85   |
| I. Force Reduction (Deltec Field Tester) | 11.2 %  |

- J. Vertical Deformation (Deltec Field Tester) 1.1 mm
- K. Chemical Resistance (ASTM F925)

Aurora Chemical Resistance Chart (ASTM F 925)					
CHEMICALS	1 hr.	24 hrs	CHEMICALS	1 hr	24 hrs
<b>ACIDS</b>			Solvents		
Hydrochloric Acid HCl (5%)	0	0	Acetone	0	0
Sulphuric Acid H <sub>2</sub> SO <sub>4</sub> (5%)	0	1	Benzene	0	0
White Vinegar CH <sub>3</sub> COOH (5%)	0	0	Butanol	0	0
<b>BASES</b>			Carbon tetrachloride		
Ammonium Hydroxide NH <sub>4</sub> OH (5%)	0	0	Chloroform	0	0
Sodium Hydroxide NaOH (5%)	0	1	Ether	0	0
<b>OXIDIZING AGENTS</b>			Ethanol		
Bleach Sodium Hypochlorite (NaOCl) (5.25%)	0	0	Ethyl acetate	0	0
Silver Nitrate (5%)	0	1	Formaldehyde	0	0
<b>STAINING AGENTS</b>			Gasoline		
Betadine	0	0	Kerosene	0	0
Coffee	0	0	Methanol	0	0
Cresol Red	0	0	Methyl ethyl ketone	0	0
Disinfectant Phenol (5%)	1	2	Mineral Oil	0	0
Grape juice	0	0	Rubbing Alcohol Isopropyl Alcohol (IPA) (70%)	0	0
Iodine	1	1	Toluene	0	0
Methylene Blue	1	1	Trichloroethylene	0	0
Olive Oil	0	0	White Mineral Spirits	0	0
Proviordine	0	0	Xylene	0	0
Urine	0	0	<b>MISCELLANEOUS</b>		
Wright's Blood Stain Solution	1	1	Quaternary (EDTA)	0	0
			Cigarette burn (1 min)	Burn (no hole)	Burn (no hole)
Coding system of results: 0: no change 1: slight discoloration 2: moderate discoloration 3: severe discoloration					

- L. Energy Restitution (Deltec Field Tester) 67.4%

M. Dynamic Rolling Load (ASTM F2753)	Good; 10,000 cycles - 231 lbs.
N. Chair Casters (ASTM D6962 / EN985)	Good; 10,000 cycles - 231 lbs.
O. Coefficient of Friction: (ASTM D2047)	$\geq 0.5$
P. Abrasion resistance: (ASTM D3389 / EN 649)	Pass
Q. Dimensional Stability: (ASTM F-2199)	$\pm 0.04\%$
R. Critical Radiant Flux (ASTM E-648)	Class I (0.58 W/cm <sup>2</sup> )
S. Resistance to Light: (ASTM F1515 ) (ISO 105-B02)	$\Delta E \leq 8.0$
T. Heat Stability (ASTM F-1514)	$\Delta E < 8.0$
U. Impact Insulation Class (IIC) (ASTM E492)	52
V. Airborne Sound (STC)	53
W. CHPS/CA 01350:	Pass

### 2.3.1 Aurora Unbacked Virgin Rubber *Flash Coving*

A. Product Name:	The unbacked virgin rubber surface furnished under this specification shall be Ecore's Aurora Unbacked distributed by Ecore Commercial.
B. Material:	Virgin rubber.
C. Sheet Dimension:	Overall nominal thickness 2mm. Standard roll size Nominal 60 inches wide by 15 LF [1.83 M by 9.14 M]. Custom lengths not available.
D. Sheet Weight:	Nominal 0.69 lbs. per sq. ft.
E. Sheet Standard Tolerances:	Width: +3/4 inch - 0 ; Length: +1% - 0 ; nominal thickness 0.077 inches + 0.008 inch - 0.004 inch
F. Colors:	Specify color from manufacturer's standard colors.
G. Static Load Limit (ASTM F970):	$\leq 0.003"$ @ 250 lbs.
H. Hardness Shore A (ASTM D2240)	>85
I. Coefficient of Friction: (ASTM D2047)	$\geq 0.5$
J. Chemical Resistance: (ASTM F925)	Pass
K. Abrasion resistance: (ASTM D3389 / EN 649)	Pass
L. Critical Radiant Flux (ASTM E-648)	Class I (0.45 W/cm <sup>2</sup> )

M. Resistance to Light: (ASTM F1515 ) (ISO 105-B02)	$\Delta E \leq 8.0$
N. Resistance to Heat (ASTM F-1514)	$\Delta E \leq 8.0$
O. CHPS/CA 01350:	Pass

### 2.3.2 Aurora Weld Rod

A. Product Name:	Welding rod under this specification shall be Aurora weld rod.
B. Material:	Thermosplastic
C. Colors:	Specify color from standard colors.
D. Dimensions:	Standard lengths of 150 LF [46 M] by 3mm in thickness. Custom lengths not available.
E. Spool Weight:	2.5 lbs [1.13 kg]

### 2.3.3 E-Grip™ III one-component urethane adhesive

A. Product Name:	The one-part urethane 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 lbs. 2 gallon pail - 28 lbs. 10.1 oz. cartridge - 1.3 lbs.
F. Color:	Medium grey
G. VOC Content:	0 lb/gal calculated
H. Freeze/Thaw:	Stable
I. Application Temperature:	40° F - 100° F
J. Relative Humidity (RH) Test (ASTM F2170)	Maximum 85%
K. Flashpoint:	> 500° F
L. Shelf Life:	12 months
M. Working Time:	30-40 minutes
N. Trowel:	1/16" x 1/16" x 1/16" square notch
O. Coverage Rate:	95 ft <sup>2</sup> / gal. – 1/16" x 1/16" x 1/16"
P. SCAQMD Rule #1168	0 lb./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 Vinyl Composition Rubber-backed Virgin Rubber resilient flooring materials from a single manufacturer.

## PART 3.0 - EXECUTION

**Specifier Note:** Revise article below to suit project requirements and specifier's practice.

### 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].

**Specifier Note:** Coordinate article below with manufacturer's recommended installation details and requirements.

### 3.4 ERECTION/INSTALLATION/APPLICATION/CONSTRUCTION

- A. Vinyl Composition Rubber-backed Virgin Rubber resilient flooring: Comply with manufacturer's technical manual for installation and maintenance procedures for flooring product.
- 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 FIELD QUALITY REQUIREMENTS

**Specifier Note:** Edit paragraph below. Establish number and duration of periodic site visits with owner and manufacturer, and specify below. Consult with manufacturer for services required. Coordinate paragraph below with Division 1 Quality Assurance Section and Part 1 Quality Assurance Submittals herein. Delete if manufacturer's field service not required.

- A. Manufacturer's Field Services: Upon owner's request, provide manufacturer's field service, consisting of product use recommendations and periodic site visit for inspection of product installation, in accordance with manufacturer's instructions.

1. Site Visits: [specify number and duration of periodic site visits].

### 3.6 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 instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

### 3.7 PROTECTION

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

### 3.8 SCHEDULES

- A. Schedules: [Specify reference to applicable schedules].

**END OF SECTION**