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**DIVISION 9 Finishes - SECTION 09 65 00 Resilient Flooring
Aurora Calendered Rubber with Vulcanized Composition Rubber Base Layer**

PART 1.0- GENERAL

1.1 SUMMARY

- A. The work of this section includes:
 - 1. Aurora Rx– Calendered sheet rubber bonded to a Vulcanized Composition Rubber Base Layer
 - 2. Aurora – unbacked Calendered sheet rubber intended for flash coving
 - 3. Weld rod
- 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. See – Part 2.0 PROPRIETARY PRODUCTS below
- C. 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 Base Layer, 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 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 PROPRIETARY PRODUCT(S)

- A. ECOsurfaces flooring
1. Aurora 7mm Rx - Calendered Rubber Flooring with Vulcanized Composition Rubber Base Layer
2. Aurora 2mm – Unbacked sheet Calendered rubber intended for flash coving
3. Aurora Weld Rod

2.1.1 Aurora Rx 7mm

Aurora Rx - Calendered Rubber Flooring with Vulcanized Composition Rubber Base Layer		
A Calendered rubber wear layer with a factory-applied PUR system fusion bonded to 5mm of ECOsurfaces Vulcanized Composition Rubber Base layer		
Roll Dimensions	Manufacturer	7mm; 5mm 6015H Vulcanized Composition Rubber Base layer + 2mm Calendered rubber surface layer. Roll size 58 inches wide x 30 LF [1.47 M by 9.14 M]
Standard Tolerances	Manufacturer	Width: +3/4" - 0" ; Length: +1% - 0" ; Thickness: ± 0.5 mm
Static Load Limit	ASTM F970	≤ 0.003" @ 250 lbs.
Hardness Shore A	ASTM D2240	>85
Force Reduction	Deltec Field Tester	11.2 %
Vertical Deformation	Deltec Field Tester	1.1 mm
Energy Restitution	Deltec Field Tester	67.4%

Dynamic Rolling Load	ASTM F2753	Good; 10,000 cycles - 231 lbs
Chair Casters	ASTM D6962 / EN 985	Good; 10,000 cycles - 231 lbs.
Coefficient of Friction	ASTM D2047	≥ 0.5
Abrasion resistance	ASTM D3389 / EN 649	Pass
Dimensional Stability	ASTM F-2199	$\pm 0.04\%$
Critical Radiant Flux	ASTM E-648	Class I (0.58 W/cm ²)
Resistance to Light	ASTM F1515; ISO 105-B02	$\Delta E \leq 8.0$
Heat Stability	ASTM F-1514	$\Delta E < 8.0$
IIC - Impact Insulation Class	ASTM E492	52
STC - Airborne Sound	ASTM E413	53
CHPS/CA 01350		Pass
Chemical Resistance	ASTM F925	See chart below

2.1.2 Aurora Unbacked 2mm Calendered Rubber intended for Flash Coving

Aurora Unbacked 2mm Calendered Rubber intended for <u>Flash Coving</u>		
Roll sheet dimensions	Manufacturer	Nominal thickness 2mm x 60 inches wide x 15 LF [1.83 M by 9.14 M]
Standard Tolerances	Manufacturer	Width: +3/4 inch - 0; Length: +1% - 0; thickness + 0.008 inch - 0.004 inch
Static Load Limit	ASTM F970	$\leq 0.003"$ @ 250 lbs.
Hardness Shore A	ASTM D2240	>85
Coefficient of Friction	ASTM D2047	≥ 0.5
Chemical Resistance	ASTM F925	Pass
Abrasion resistance	ASTM D3389 / EN 649	Pass
Critical Radiant Flux	ASTM E648	Class I (0.45 W/cm ²)
Resistance to Light	ASTM F1515 / ISO 105-B02	$\Delta E \leq 8.0$
Resistance to Heat	ASTM F-1514	$\Delta E \leq 8.0$
CHPS/CA 01350		Pass

2.1.3 Aurora Weld Rod

Aurora Weld Rod	
Material	Thermosplastic
Dimensions	Spool length 150 LF [46 M] by 3mm diameter

Aurora Chemical Resistance Chart (ASTM F 925)					
CHEMICALS	1 hr.	24 hrs	CHEMICALS	1 hr	24 hrs
ACIDS			Solvents		
Hydrochloric Acid HCl (5%)	0	0	Acetone	0	0
Sulphuric Acid H ₂ SO ₄ (5%)	0	1	Benzene	0	0
White Vinegar CH ₃ COOH (5%)	0	0	Butanol	0	0
BASES			Carbon tetrachloride		
Ammonium Hydroxide NH ₄ OH (5%)	0	0	Chloroform	0	0
Sodium Hydroxide NaOH (5%)	0	1	Ether	0	0
OXIDIZING AGENTS			Ethanol		
Bleach Sodium Hypochlorite (NaOCl) (5.25%)	0	0	Ethyl acetate	0	0
Silver Nitrate (5%)	0	1	Formaldehyde	0	0
STAINING AGENTS			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
Provioline	0	0	Xylene	0	0
Urine	0	0	MISCELLANEOUS		
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					

2.2 PRODUCT SUBSTITUTIONS

2.3.1 Substitutions: No substitutions permitted.

2.4 RELATED MATERIALS

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

2.5 SOURCE QUALITY

2.5.1 Source Quality: Obtain Vinyl Composition Rubber-backed Calendered 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 Calendered 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