

SECTION 09 65 16

RESILIENT SHEET FLOORING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section includes resilient sheet floor coverings in elevator cabs.
- B. Related Sections:
 - 1. Resilient tile flooring is specified in Section 09 65 19.

1.02 SUBMITTALS

- A. Product Data: Submit for each type of product specified.
- B. Shop Drawings: Show location of seams and edge strips. Indicate location of columns, doorways, enclosing partitions, built-in cabinets, and locations where cutouts are required in flooring.
- C. Samples:
 - 1. For verification purposes in form of 6-inch by 9-inch sections of each different color and pattern of resilient sheet floor covering product specified, showing full range of variations expected in these characteristics.
 - 2. Sample of coved base outside corner showing heat welding techniques to be used in forming outside corners. Modify as directed by the County's Representative until corner sample is approved.
- D. Maintenance data for resilient sheet floor coverings.
- E. LEED Submittals:
 - 1. Credit MR 6: Product data for rapidly renewable materials indicated material composition. Include statement indicating cost for each rapidly renewable material.
 - 2. Credit IEQ 4.1: Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.
 - a. Furnish LEED Online Credit Template listing the adhesives and sealants used in the building and declaring that they meet the specified LEED requirements.
 - b. Required Audit Documentation:
 - 1) Product data sheets and MSDS for each adhesive/sealant used on the interior, with the VOC content in g/L circled and indicating VOC content of each product used.
 - 2) Summary table comparing credit VOC requirements and actual VOC levels for each product
- F. Warranty.

1.03 QUALITY ASSURANCE

- A. Fire Performance Characteristics: Provide resilient sheet floor coverings with the following fire performance characteristics as determined by testing products per ASTM test method indicated below by Underwriters Laboratories, Inc. (UL) or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Critical Radiant Flux: 0.45-watts per sq. cm or more per NFPA 253 (ASTM E648).
 - 2. Smoke Density: Less than 450 per NFPA 258 (ASTM E662).

- B. Resilient sheet flooring shall have a slip resistance coefficient of 0.6.

1.04 ENVIRONMENTAL QUALITY ASSURANCE

- A. Credit MR 6: Use rapidly renewable construction and furniture and furnishings materials and products (made from plants that are typically harvested within a 10-year cycle or shorter) for 5-percent of the total value of all building materials and products used in the Project, based on cost.
- B. Credit IEQ 4.1: Adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards:
1. Adhesives, Sealants and Sealant Primers: Comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits as follows:

Architectural Applications	VOC Limit g/L less water	Specialty Applications	VOC Limit g/L less water
Indoor Carpet Adhesives	50	PVC welding	510
Carpet pad adhesives	50	CPVC welding	490
Wood flooring adhesives	100	ABS welding	325
Rubber floor adhesives	60	Plastic cement welding	250
Subfloor adhesives	50	Adhesive primer for plastic	550
Ceramic tile adhesives	65	Contact adhesive	80
VCT and asphalt adhesives	50	Special purpose contact adhesive	250
Drywall and panel adhesives	50	Structural wood member adhesive	140
Cove base adhesives	50	Sheet applied rubber lining operations	850
Multipurpose construction adhesives	70	Top and trim adhesive	250
Structural glazing adhesives	100		
Substrate Specific Applications	VOC Limit g/L less water	Sealants	VOC Limit g/L less water
Metal to Metal	30	Architectural	250
Plastic foams	50	Nonmembrane roof	300
Porous material (except wood)	50	Roadway	250
Wood	30	Single-ply roof membrane	450
Fiberglass	80	Other	420
Sealant Primers	VOC Limit (g/L less water)		
Architectural, nonporous	250		
Architectural, porous	775		
Other	750		

2. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.

Aerosol Adhesives	VOC Limit
General purpose mist spray	65% VOCs by weight
General purpose web spray	55% VOCs by weight
Special purpose aerosol adhesives (all types)	70% VOCs by weight

- C. Applicable LEED Credits:
1. Credit MR 6 – Rapidly Renewable Materials.
 2. Credit IEQ 4.1 – Low-Emitting Materials - Adhesives and Sealants.

1.05 REGULATORY REQUIREMENTS

- A. Slip Resistant Surfaces: Conform to the more restrictive provisions of Title III of the Americans with Disabilities Act or California Building Code (CBC).
1. Resilient flooring shall have a coefficient of friction of at least 0.6 per ASTM D2047.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver resilient sheet floor coverings and installation accessories to Project site in original manufacturer's unopened cartons and containers, each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.
- B. Store flooring materials in dry spaces protected from the weather with ambient temperatures maintained between 50- and 90-deg. F.
- C. Move resilient sheet floor coverings and installation accessories into spaces where they will be installed at least 48-hours in advance of installation.

1.07 PROJECT CONDITIONS

- A. Maintain a minimum temperature of 70-deg. F. in spaces to receive resilient sheet floor coverings for at least 48-hours prior to installation, during installation, and for not less than 48-hours after installation. After this period, maintain a temperature of not less than 55-deg. F. and not more than 95-deg. F. unless otherwise acceptable to the floor covering manufacturer.
- B. Do not install resilient sheet floor coverings until they are at the same temperature as the space where they are to be installed.
- C. Close spaces to traffic while installing resilient sheet floor covering.
- D. Provide for continuous ventilation during installation using as close to 100-percent outside air as possible.

1.08 SEQUENCING AND SCHEDULING

- A. Install resilient sheet floor coverings and accessories after other finishing operations, including painting, have been completed.

1.09 WARRANTY

- A. Warrant linoleum sheet flooring to be free from defects in materials and workmanship for a period of 5-years from the Date of Substantial Completion. This warranty shall be in addition to and not a limitation of other rights the County may have against the Developer Design/Builder under the Contract Documents.

1.10 EXTRA MATERIALS

- A. Deliver extra materials to County. Furnish extra materials matching products installed as described below, packaged with protective covering for storage and identified with labels clearly describing contents.
 - 1. Furnish not less than 5-percent, in roll form of each different composition, wearing surface, color, and pattern of resilient sheet floor covering installed.

PART 2 - PRODUCTS

2.01 RESILIENT LINOLEUM FLOOR COVERINGS

- A. Approved Manufacturers: Tarkett , Armstrong, Forbo or approved equal.
- B. Pattern and Color: To be selected by the County's Representative.
- C. Material: Homogeneous sheet linoleum of primarily natural materials consisting of linseed oil, wood flour, and rosin binders, mixed and calendered onto natural jut backing. Pattern and color shall extend throughout total thickness of material.
- D. Gauge: 0.080-inch.
- E. Backing: Jute.
- F. Provide single piece for each elevator cab; seams will not be acceptable.

2.02 INSTALLATION ACCESSORIES

- A. Primer: Non-staining type as recommended by flooring manufacturer.
- B. Trowelable Underlayments and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by floor covering manufacturer for applications indicated.
- C. Adhesives: Provide type and brands of solvent free water-resistant adhesive as recommended by manufacturer of resilient flooring for conditions of installation.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surface is free of surface irregularities and substances with potential to interfere with adhesive bond, show through surface, or stain resilient sheet floor coverings.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Comply with manufacturer's installation specifications to prepare substrates indicated to receive resilient sheet floor coverings.
- B. Use trowelable leveling and patching compounds per floor covering manufacturer's direction to fill cracks, holes, and depressions in substrates.
- C. Remove coatings, including curing compounds, and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.
- D. Broom or vacuum clean substrates to be covered by resilient sheet floor coverings immediately before installation. Following cleaning, examine substrates to determine if there is visually any evidence of moisture, alkaline salts, carbonation, or dust.
- E. Apply primer if recommended by flooring manufacturer, prior to application of adhesive. Apply according to manufacturer's directions.

3.03 INSTALLATION

- A. Comply with resilient sheet floor covering manufacturer's installation instructions and other requirements indicated that are applicable to each type of floor covering installation included in Project.
- B. Lay out resilient sheet floor coverings to comply with the following requirements:
 - 1. Maintain uniformity of resilient sheet floor covering direction.
 - 2. Install single sheets in each elevator cab without seams.
- C. Scribe, cut, and fit resilient sheet floor coverings to butt tightly to vertical surfaces, edgings and thresholds.
- D. Adhere resilient sheet floor coverings to flooring substrates by method approved by floor covering manufacturer.
 - 1. Produce completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections.
 - 2. Comply with floor covering manufacturer's directions including those for trowel notching, adhesive mixing, and adhesive open and working times.

- E. Hand roll resilient sheet floor coverings in both directions from center out to embed floor coverings in adhesive and eliminate trapped air. At walls, door casings, and other locations where access by roller is impractical, press floor coverings firmly in place with flat-bladed instrument.

3.04 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing resilient sheet floor coverings:
 - 1. Remove visible adhesive and other surface blemishes using cleaner recommended by floor covering manufacturers.
 - 2. Sweep or vacuum floor thoroughly.
 - 3. Do not wash floor until after period recommended by floor covering manufacturer.
 - 4. Damp-mop floor to remove black marks and soil.
- B. For linoleum sheet flooring, expose installed flooring to either natural or artificial light to allow "drying room yellowing" on installed flooring to disappear prior to initiating temporary protection procedures.
- C. Protect flooring against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods indicated or recommended by floor covering manufacturer.
 - 1. Cover resilient sheet floor coverings with undyed, untreated building paper until inspection for Acceptance of Work.
 - 2. Do not move heavy and sharp objects directly over resilient sheet floor coverings. Place plywood or hardboard panels over floor coverings and under objects while they are being moved. Slide or roll objects over panels without moving panels.
- D. Clean resilient sheet flooring not more than 4-days prior to dates scheduled for inspections intended to establish date of Acceptance of Work in each area of Project. Clean resilient sheet floor coverings by method recommended by manufacturer.

3.05 WASTE MANAGEMENT

- A. General: Comply with Section 01 74 19.
- B. Separate waste and place in the following categories for re-use:
 - 1. Sheet materials larger than 2-sq. ft.
- C. Linoleum and cork, if used, are biodegradable and may be shredded and composted.
- D. Close and seal tightly all partly used adhesive containers and store protected in well-ventilated fire-safe area at moderate temperatures.
- E. Place used adhesive tubes and containers in areas designated for hazardous materials.

END OF SECTION