

SECTION 09 65 00

RESILIENT FLOORING
01/07

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D 4078	(2002) Water Emulsion Floor Polish
ASTM E 648	(2006a) Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
ASTM F 1344	(2004) Rubber Floor Tile
ASTM F 1482	(2004) Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring
ASTM F 1861	(2002) Resilient Wall Base
ASTM F 1869	(2004) Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
ASTM F 2170	(2002) Determining Relative Humidity in Concrete Floor Slabs in situ Probes
ASTM F 2195	(2007) Linoleum Floor Tile
ASTM F 710	(2005) Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD)

SCAQMD Rule 1168	(1989; R 2005) Adhesive and Sealant Applications
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1.2 FIRE RESISTANCE REQUIREMENTS

Provide a minimum average critical radiant flux of 0.22 watts per square centimeter for flooring in corridors and exits when tested in accordance with ASTM E 648.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When

used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Resilient Flooring and Accessories; G, AE

Scaled drawings indicating patterns (including location of patterns and colors) and dimensions.

SD-03 Product Data

Resilient Flooring and Accessories; G, AE

Manufacturer's descriptive data.

Adhesives

Manufacturer's descriptive data, documentation stating physical characteristics, and mildew and germicidal characteristics. Provide Material Safety Data Sheets (MSDS) for all primers and adhesives to the Contracting Officer. Highlight VOC emissions.

SD-04 Samples

Resilient Flooring and Accessories; G, AE

Three samples of each indicated color and type of flooring, base, mouldings, and accessories. Provide a minimum 2-1/2 by 4 inch sample.

SD-06 Test Reports

Moisture, Alkalinity and Bond Tests

Copy of test reports for moisture and alkalinity content of concrete slab, and bond test stating date of test, person conducting the test, and the area tested.

SD-08 Manufacturer's Instructions

Surface Preparation; G, AE

Installation; G, AE

Manufacturer's printed installation instructions for all flooring materials and accessories, including preparation of substrate, seaming techniques, and recommended adhesives.

SD-10 Operation and Maintenance Data

Resilient Flooring and Accessories; G, AE

Data Package 1 in accordance with Section 01 78 23 OPERATION AND MAINTENANCE DATA.

1.4 DELIVERY AND STORAGE

Deliver materials to the building site in original unopened containers

bearing the manufacturer's name, style name, pattern color name and number, production run, project identification, and handling instructions. Store materials in a clean, dry, secure, and well-ventilated area free from strong contaminant sources and residues with ambient air temperature maintained above 68 degrees F and below 85 degrees F, stacked according to manufacturer's recommendations. Protect materials from the direct flow of heat from hot-air registers, radiators and other heating fixtures and appliances. Observe ventilation and safety procedures specified in the MSDS.

1.5 ENVIRONMENTAL REQUIREMENTS

Maintain areas to receive resilient flooring at a temperature above 68 degrees F and below 85 degrees F for 3 days before application, during application and 2 days after application, unless otherwise directed by the flooring manufacturer for the flooring being installed. Maintain a minimum temperature of 55 degrees F thereafter. Provide adequate ventilation to remove moisture from area and to comply with regulations limiting concentrations of hazardous vapors.

1.6 SCHEDULING

Schedule resilient flooring application after the completion of other work which would damage the finished surface of the flooring.

1.7 WARRANTY

Provide manufacturer's standard performance guarantees or warranties that extend beyond a one year period.

1.8 EXTRA MATERIALS

Furnish extra flooring material of each color and pattern at the rate of 5 tiles for each 1000 tiles installed. Furnish extra wall base material composed of 20 linear feet of each type, color and pattern. Package all extra materials in original properly marked containers bearing the manufacturer's name, brand name, pattern color name and number, production run, and handling instructions. Provide extra materials from the same lot as those installed. Leave extra stock at the site in location assigned by Contracting Officer.

PART 2 PRODUCTS

2.1 RUBBER TILE

Conform to ASTM F 1344 for rubber tile Class 1 homogeneous, Type A (solid color), 40 inch square. Provide hammered texture. Provide 0.16 inch overall thickness. Material to be synthetic rubber containing no PVC, halogens, formaldehyde, asbestos or CFCs.

2.2 LINOLEUM TILE

Conform to ASTM F 2195 for linoleum tile consisting of a homogeneous layer of a mixture of linoleum cement (binder in linoleum consisting of a mixture of linseed oil, pine rosin, fossil, or other resins or rosins, or an equivalent oxidized oleoresinous binder), cork and/or wood flour, mineral fillers, and pigments bonded to a jute backing. Provide square tiles a minimum 18 inch square and overall thickness 0.100 inch minimum for linoleum tile.

2.3 WALL BASE

Conform to [ASTM F 1861](#) for wall base, Type TP thermoplastic rubber Group 2. Provide covered style, [4 inch](#) high and a minimum [1/8 inch](#) thick wall base. Furnish job formed corners in matching height, shape, and color. Contoured profile shall have 45-degree angled top with [7/32-inch](#) surface reveal.

2.4 ADHESIVES

Provide adhesives for flooring, base and accessories as recommended by the manufacturer and comply with local indoor air quality standards. VOC content must be less than the current VOC content limits of [SCAQMD Rule 1168](#).

2.5 SURFACE PREPARATION MATERIALS

Provide surface preparation materials, such as panel type underlayment, lining felt, and floor crack fillers as recommended by the flooring manufacturer for the subfloor conditions. Comply with [ASTM F 1482](#) for panel type underlayment products.

2.6 POLISH/FINISH

Furnish polish as recommended by the manufacturer and conform to [ASTM D 4078](#).

2.7 CAULKING AND SEALANTS

Furnish caulking and sealants in accordance with Section [07 92 00 JOINT SEALANTS](#).

2.8 MANUFACTURER'S COLOR, PATTERN AND TEXTURE

Provide color, pattern and texture for [resilient flooring and accessories](#) as indicated on the drawings. Color listed is not intended to limit the selection of equal colors from other manufacturers. Provide floor patterns as specified on the drawings. Provide flooring in any one continuous area or replacement of damaged flooring in continuous area from same production run with same shade and pattern.

PART 3 EXECUTION

3.1 EXAMINATION/VERIFICATION OF CONDITIONS

Examine and verify that site conditions are in agreement with the design package. Report all conditions that will prevent a proper [installation](#). Do not take any corrective action without written permission from the Government. Work will proceed only when conditions have been corrected and accepted by the installer.

3.2 SURFACE PREPARATION

Provide a smooth, true, level plane for surface preparation of the flooring, except where indicated as sloped. Flatten floor to within [3/16 inch in 10 feet](#). Prepare subfloor in accordance with flooring manufacturer's recommended instructions. Prepare the surfaces of lightweight concrete slabs (as defined by the flooring manufacturer) as recommended by the flooring manufacturer. Comply with [ASTM F 710](#) for concrete subfloor preparation. Floor fills or toppings may be required as

recommended by the flooring manufacturer. Install underlayments, when required by the flooring manufacturer, in accordance with manufacturer's recommended printed installation instructions. Comply with [ASTM F 1482](#) for panel type underlayments. Before any work under this section is begun, correct all defects such as rough or scaling concrete, chalk and dust, cracks, low spots, high spots, and uneven surfaces. Repair all damaged portions of concrete slabs as recommended by the flooring manufacturer. Remove from the slabs concrete curing and sealer compounds, other than the type that does not adversely affect adhesion. Remove paint, varnish, oils, release agents, sealers, waxers, and adhesives, as required by the flooring product in accordance with manufacturer's printed installation instructions.

3.3 MOISTURE, ALKALINITY AND BOND TESTS

Determine the suitability of the concrete subfloor for receiving the resilient flooring with regard to moisture content and pH level by moisture and alkalinity tests and comply with manufacturer's recommendations. Conduct moisture testing in accordance with [ASTM F 1869](#) or [ASTM F 2170](#), unless otherwise recommended by the flooring manufacturer. Conduct alkalinity testing as recommended by the flooring manufacturer. Determine the compatibility of the resilient flooring adhesives to the concrete floors by a bond test in accordance with the flooring manufacturer's recommendations.

3.4 PLACING LINOLEUM TILES

Install tile flooring and accessories in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's directions. Keep tile lines and joints square, symmetrical, tight, and even. Keep each floor in true, level plane, except where slope is indicated. Vary edge width as necessary to maintain full-size tiles in the field, but no edge tile with less than one-half the field tile size, except where irregular shaped rooms make it impossible. Cut flooring to fit around all permanent fixtures, built-in furniture and cabinets, pipes, and outlets. Cut, fit, and scribe edge tile to walls and partitions after field flooring has been applied.

3.5 PLACING RUBBER TILE

Install rubber tile and accessories in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Provide square, symmetrical, tight, and even flooring lines and joints. Keep each floor in true, level plane, except where slope is indicated. Vary width of edge tiles as necessary to maintain full-size tiles, except where irregular-shaped rooms makes it impossible. Cut flooring to fit around, all permanent fixtures, built-in furniture and cabinets, pipes, and outlets. Cut, fit, and scribe flooring to walls and partitions after field flooring has been applied.

3.6 PLACING WALL BASE

Install wall base in accordance with manufacturer's printed installation instructions. Prepare and apply adhesives in accordance with manufacturer's printed directions. Tighten base joints and make even with adjacent resilient flooring. Fill voids along the top edge of base at masonry walls with caulk. Roll entire vertical surface of base with hand roller, and press toe of base with a straight piece of wood to ensure proper alignment. Avoid excess adhesive in corners.

3.7 CLEANING

Immediately upon completion of installation of flooring in a room or an area, dry/clean the flooring and adjacent surfaces to remove all surplus adhesive. Clean flooring as recommended in accordance with manufacturer's printed maintenance instructions. No sooner than 5 days after installation, wash flooring with a nonalkaline cleaning solution, rinsed thoroughly with clear cold water, and, except for rubber flooring and stair treads, risers and stringers, vinyl and other flooring not requiring polish by manufacturer, given the number of coats of polish in accordance with manufacturer's written instructions. Clean and maintain all other flooring as recommended by the manufacturer.

3.8 PROTECTION

From the time of laying until acceptance, protect flooring from damage as recommended by the flooring manufacturer. Remove and replace flooring which becomes damaged, loose, broken, or curled and wall base which is not tight to wall or securely adhered.

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