# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 and 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. Section Includes:
   1. Luxury vinyl tile.
   2. Rubber tile.

B. Related Requirements:
   1. Section 018113 “Sustainable Design Requirements.”
   2. Section 096513 "Resilient Base and Accessories" for resilient wall base and accessories installed with resilient flooring.
   3. Section 096536 “Static-Control Resilient Flooring.”

## 1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. LEED Submittals: Credits MRc4, EQc4.1, and EQc4.3. Refer to Section 018113 “Sustainable Design Requirements” for additional submittal requirements.

C. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
   1. Show details of special patterns.

D. Samples: Full-size units of each color and pattern of floor tile required.

## 1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

## 1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation and seaming method indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces.

1.8 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 65 def F or more than 85 deg F, in spaces to receive floor tile during the following time periods:
   1. 48 hours before installation.
   2. During installation.
   3. 48 hours after installation.

B. Maintain the ambient relative humidity between 40-percent and 60-percent during installation.

C. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg For more than 85 deg F.

D. Close spaces to traffic during floor tile installation.

E. Close spaces to traffic for 48 hours after floor tile installation.

F. Install floor tile after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 FLOOR TILE

A. Products: Subject to compliance with requirements, provide one of the following:
   1. Resilient tile flooring as indicating on Material Finish Schedule on Drawings (Basis-of-Design)
   2. Or equal.

B. Coefficient of Friction (COF): Resilient flooring shall meet static COF value of 0.6 at flat walkway surfaces, or 0.8 at ramps, for both wet and dry conditions, when measured per the ASTM C 1028.

C. LEED Materials: Credits MRc4, EQc4.1, and EQc4.3. Refer to Section 018113 “Sustainable Design Requirements” for additional material requirements.

2.2 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.

B. Adhesives (where required): Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated. Adhesive shall meet SCAQMD current VOC limit requirements.

C. Commercial Floor Sealer/Vapor Barrier: Barrier recommended by flooring manufacturer to assure compatibility with flooring and related adhesive materials for use in reducing the moisture-vapor-emissions, relative humidity, and alkalinity rates to maximum allowed by flooring manufacturer.

D. LEED Materials: Credits MRc4, EQc4.1, and EQc4.3. Refer to Section 018113 “Sustainable Design Requirements” for additional material requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
   1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare according to ASTM F 710.
   1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
   2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
   3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within

range on pH scale recommended by manufacturer in writing, but not less than 7 or more than 9 pH.

4. Moisture Testing: Proceed with installation only after substrates pass testing according to floor tile manufacturer's written recommendations, but not less stringent than the following:
   a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
   b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have a maximum 80 percent relative humidity level.
   c. Do not install flooring until above requirements are met. If these requirements are not met, install
5. Apply floor sealer as recommended by flooring manufacturer if concrete substrate does not meet moisture vapor emissions and alkalinity rates complying with flooring manufacturer’s written recommendations.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install floor tiles until they are the same temperature as the space where they are to be installed.
   1. At least 48 hours in advance of installation, move resilient floor tile and installation materials into spaces where they will be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.3 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
   1. Lay tiles square with room axis, unless noted otherwise.

C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
   1. Lay tiles as recommended by manufacturer.

D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.

G. Adhere floor tiles to flooring substrates, when required by manufacturer, using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

## 3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.

B. Perform the following operations immediately after completing floor tile installation:
   1. Remove adhesive and other blemishes from exposed surfaces.
   2. Sweep and vacuum surfaces thoroughly.
   3. Damp-mop surfaces to remove marks and soil.

C. Protect floor tile from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Cover floor tile until Substantial Completion.

END OF SECTION