

SECTION 09 65 19 - RESILIENT TILE AND PLANK FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid vinyl floor tiles.
2. Commercial luxury vinyl floor tiles.
3. Commercial luxury vinyl floor planks.
4. Rigid polymeric core floor tiles.
5. Rigid polymeric core floor planks.
6. Rubber floor tiles.
7. Vinyl composition floor tiles.
8. Resilient terrazzo floor tiles.

B. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

1. Section 02 41 19 "Selective Demolition" for removing existing floor coverings.
2. Section 09 65 13 "Resilient Base and Accessories" for wall base and accessories installed with resilient tile and plank flooring.
3. Section 09 65 16 "Resilient Sheet Flooring" for resilient rolled flooring.
4. Section 09 65 43 "Linoleum Flooring" for modular and sheet linoleum flooring.

1.2 PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" Paragraph below if Work of this Section is extensive or complex enough to justify a conference.

A. Preinstallation Conference: Conduct conference at **[Project site]<Insert location>**.

Retain subparagraph below if additional requirements are necessary.

1. Review methods and procedures related to resilient tile and plank flooring installation including, but not limited to, the following:
 - a. Review delivery, storage, and handling procedures.
 - b. Review ambient conditions and ventilation procedures.
 - c. Review subfloor preparation procedures.
 - d. **<Insert agenda items>**.

1.3 ACTION SUBMITTALS

Action submittals are submittals requiring responsive action and return of reviewed documents to Contractor.

A. Product Data: For each type of product.

1. Include manufacturers' written data on physical characteristics, durability, and fade resistance.
2. Include manufacturers' written installation instructions for each type of substrate.

Retain "Shop Drawings" Paragraph below if required.

B. Shop Drawings: For each type of resilient flooring type required.

1. Include flooring layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
2. Show details of special patterns.

Retain "Samples" Paragraph below for single-stage Samples, with a subordinate list if applicable.

C. Samples: Full-size units of each color, texture, and pattern of resilient flooring type required.

Retain "Samples for Initial Selection" and "Samples for Verification" paragraphs below for two-stage Samples.

D. Samples for Initial Selection: For each type of resilient flooring product required.

E. Samples for Verification: Full-size units of each color and pattern of resilient flooring type required.

F. Product Schedule: For each type of resilient flooring product required. [**Use same designations indicated on Drawings.**]

Retain "Sustainable Design Submittals" Paragraph below if required to attain sustainability rating or to track sustainability submittals.

G. Sustainable Design Submittals:

1. Third-Party Certifications: For each product.
2. Third-Party-Certified Life-Cycle Assessment: For each product.

1.4 INFORMATIONAL SUBMITTALS

Informational submittals are submittals that require review by Architect, but they do not require Architect's responsive action and return of reviewed documents to Contractor, provided submittals comply with requirements. If rejected, submittals with responsive action must be returned to Contractor.

- A. Product Test Reports: For resilient flooring, for tests performed by a qualified testing agency.

Coordinate "Qualification Data" Paragraph below with qualification requirements in Section 01 40 00 "Quality Requirements" and as may be supplemented in "Quality Assurance" Article.

- B. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of resilient flooring product type to include:
 - 1. Methods for maintaining resilient flooring, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
 - 2. Precautions for cleaning materials and methods that could be detrimental to resilient flooring.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for resilient flooring installation and seaming method indicated.

Not all manufacturers train or certify installers. Before retaining subparagraph below, verify availability with manufacturers; retain with "Qualification Data" Paragraph in "Informational Submittals" Article.

- 1. Engage an installer who employs workers for this Project who are trained or certified by resilient flooring manufacturer for installation techniques required.

Retain "Mockups" Article if Work of this Section is extensive or complex enough to justify a mockup.

1.7 MOCKUPS

- A. Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
 - 1. Build mockups [**as indicated on Drawings**]**<Insert mockup requirements>**.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Owner specifically approves such deviations by Change Order.

Retain subparagraph below if the intention is to make an exception to the default requirement in Section 01 40 00 "Quality Requirements" for demolishing and removing mockups.

- 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 FIELD CONDITIONS

Ambient temperature range for installation varies among manufacturers. Consult manufacturers for recommendations and revise "Environmental Limitations" Paragraph below to suit Project.

- A. Environmental Limitations: Do not deliver or install resilient flooring until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.

Retain paragraphs below if products are adhesively applied to concrete substrates. Revise to suit Project.

- B. Do not install resilient flooring over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended in writing by resilient flooring manufacturer.
- C. Adhesively Applied Products:
 - 1. Maintain temperatures during installation within range recommended in writing by manufacturer, but not less than **[70 deg F]<Insert temperature>** or more than **[95 deg F]<Insert temperature>**, in spaces to receive flooring 48 hours before installation, during installation, and 48 hours after installation unless longer period is recommended in writing by manufacturer.
 - 2. After postinstallation period, maintain temperatures within range recommended in writing by manufacturer, but not less than **[55 deg F]<Insert temperature>** or more than **[95 deg F]<Insert temperature>**.
 - 3. Close spaces to traffic during flooring installation.
 - 4. Close spaces to traffic for 48 hours after flooring installation unless manufacturer recommends longer period in writing.

1.9 WARRANTY

When warranties are required, verify with Owner's counsel that warranties stated in this article are not less than remedies available to Owner under prevailing local laws.

Revise "Special Warranty for Resilient Flooring Products" Paragraph below if manufacturers have separate warranties for various characteristics.

- A. Special Warranty for Resilient Flooring Products: Manufacturer agrees to repair or replace components of flooring installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of flooring due to unusual traffic, failure of substrate, vandalism, or abuse.

Verify available warranties and warranty periods for resilient flooring products.

- 2. Warranty Period: **[10]<Insert number>** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

Retain "Fire-Test-Response Characteristics" Paragraph below if fire-test-response testing is required by authorities having jurisdiction. In most building codes, resilient flooring is exempt from fire-test-response requirements. See "Fire-Test-Response Characteristics" Article in the Evaluations for additional information.

- A. Fire-Test-Response Characteristics: For resilient tile flooring, as determined by testing identical products in accordance with ASTM E648 or ASTM E662 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 RESILIENT TILE AND PLANK FLOORING

Copy "Solid Vinyl Floor Tiles" Paragraph below and re-edit for each product required.

Insert drawing designation. Use these designations on Drawings to identify each product.

- A. Solid Vinyl Floor Tiles: Resilient tile flooring product composed of binder, fillers, and pigments compounded with suitable stabilizers and processing aids.

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

- 1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:**
 - a. **[Altro]**
 - b. **[American Biltrite]**
 - c. **[Flexco Corporation]**
 - d. **[Mohawk Group]**
 - e. **[Roppe Corporation; Roppe Holding Company]**
 - f. **[Shaw Industries Group, Inc.; Berkshire Hathaway Company]**
 - g. **[van Gelder, Inc]**
 - h. **[VPI Corporation]**
 - i. **<Insert manufacturer's name>**
- 2. Classification: ASTM F1700, Class **[I, Monolithic Vinyl Tile][II, Surface-Decorated Vinyl Tile][III, Printed Film Vinyl Tile][As indicated by product designations]**.
 - a. Type: **[A, Smooth Surface][B, Embossed Surface]**.
- 3. Thickness: **[0.080 inch][0.100 inch][0.120 inch][0.125 inch]<Insert dimension>**.

Tiles do not have to be square shaped. If other shapes are required, insert requirements in "Size" Subparagraph below.

4. Size: **[12 by 12 inches][18 by 18 inches][24 by 24 inches][36 by 36 inches][3 by 36 inches]<Insert dimensions>**.

Retain "Color and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

5. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>**.

Retain "Recycled Content" Paragraph below to specify recycled content if required. An alternative method of requiring recycled content is to retain requirement in Project's Division 01 sustainable design requirements Section that gives Contractor the option and responsibility to determine how recycled content requirements will be met.

- B. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **<Insert number>** percent.

Copy "Commercial Luxury Vinyl Floor Tiles" Paragraph below and re-edit for each product required.

Insert drawing designation. Use these designations on Drawings to identify each product.

- C. Commercial Luxury Vinyl Floor Tiles: Solid, resilient tile flooring product composed of binder, fillers, and pigments compounded with suitable stabilizers and processing aids; marketed as luxury vinyl tiles (LVT).

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]**:
 - a. **[Altro]**
 - b. **[American Biltrite]**
 - c. **[Armstrong Flooring, Inc.]**
 - d. **[Flexco Corporation]**
 - e. **[Gerflor USA]**
 - f. **[Mannington Mills, Inc]**
 - g. **[Mohawk Group]**
 - h. **[Roppe Corporation; Roppe Holding Company]**
 - i. **[Shaw Industries Group, Inc.; Berkshire Hathaway Company]**
 - j. **[Tarkett USA]**
 - k. **[van Gelder, Inc]**
 - l. **<Insert manufacturer's name>**
2. Classification: ASTM F1700, Class **[II, Surface-Decorated Vinyl Tile][III,**

Printed Film Vinyl Tile].

- a. Type: **[A, Smooth Surface][B, Embossed Surface].**
3. Overall Thickness: **[0.080 inch][0.100 inch][0.120 inch][0.125 inch]<Insert dimension>** including manufacturer's standard clear wear layer and UV-cured polyurethane topcoat.
4. Nominal Size: **[12 by 12 inches][12 by 24 inches][18 by 18 inches][24 by 24 inches][36 by 36 inches][3 by 36 inches][6 by 48 inches][9 by 60 inches]<Insert dimensions>.**

Retain "Color and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

5. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>.**

Retain "Recycled Content" Subparagraph below for LEED v4 MR Credit "Building Product Disclosure and Optimization - Sourcing of Raw Materials," Option 2 - "Leadership Extraction Practices."

6. Recycled Content: Provide manufacturer documentation for recycled content, indicating postconsumer and preconsumer recycled content.

Copy "Commercial Luxury Vinyl Floor Planks" Paragraph below and re-edit for each product required.

Insert drawing designation. Use these designations on Drawings to identify each product.

- D. Commercial Luxury Vinyl Floor Planks: Solid, resilient plank flooring product composed of binder, fillers, and pigments compounded with suitable stabilizers and processing aids; marketed as luxury vinyl planks (LVP).

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:**
 - a. **[Altro]**
 - b. **[American Biltrite]**
 - c. **[Armstrong Flooring, Inc.]**
 - d. **[Flexco Corporation]**
 - e. **[Gerflor USA]**
 - f. **[Mannington Mills, Inc]**
 - g. **[Mohawk Group]**
 - h. **[Roppe Corporation; Roppe Holding Company]**
 - i. **[Shaw Industries Group, Inc.; Berkshire Hathaway Company]**
 - j. **[Tarkett USA]**

- k. **[van Gelder, Inc]**
- l. **<Insert manufacturer's name>**
- 2. Classification: ASTM F1700, Class III, Printed Film Vinyl Tile.
 - a. Type: **[A, Smooth Surface][B, Embossed Surface]**.
- 3. Overall Thickness: **[0.080 inch][0.100 inch][0.120 inch][0.125 inch]<Insert dimension>** including manufacturer's standard clear wear layer and UV-cured polyurethane topcoat.
- 4. Nominal Size: **[12 by 12 inches][12 by 24 inches][18 by 18 inches][24 by 24 inches][36 by 36 inches][3 by 36 inches][6 by 48 inches][9 by 60 inches]<Insert dimensions>**.

Retain "Color and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

- 5. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>**.

Retain "Recycled Content" Subparagraph below for LEED v4 MR Credit "Building Product Disclosure and Optimization - Sourcing of Raw Materials," Option 2 - "Leadership Extraction Practices."

- 6. Recycled Content: Provide manufacturer documentation for recycled content, indicating postconsumer and preconsumer recycled content.

Copy "Rigid Polymeric Core Floor Tiles" Paragraph below and re-edit for each product required.

Insert drawing designation. Use these designations on Drawings to identify each product.

- E. Rigid Polymeric Core Floor Tiles: Resilient flooring product with rigid polymeric core that is surface-decorated or -printed and protected by a clear wear layer **[, marketed as luxury vinyl tiles (LVT),]** with worked edges that allow the product to be joined or butted together to form a larger integral unit.

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

- 1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]**:
 - a. **[American Biltrite]**
 - b. **[Gerflor USA]**
 - c. **[Mannington Mills, Inc]**
 - d. **[Shaw Industries Group, Inc.; Berkshire Hathaway Company]**
 - e. **[Tarkett USA]**
 - f. **<Insert manufacturer's name>**

2. Classification: ASTM F3261, Class I, printed with clear transparent/translucent wear layer.
 - a. Type: **[A, Smooth Surface][B, Embossed Surface]**.

Grade classification below represents total wear-layer thickness. Grade 1 (commercial) specifies minimum wear-layer thickness of 0.020 inch (0.5 mm); Grade 2 specifies wear-layer thickness less than 0.020 inch (0.5 mm).

- b. Grade: **[1][2]**.
 - c. Backing Class: **[A, no attached underlay backing][B, with attached underlay backing]**.
3. Overall Thickness: **[0.2 inch][0.236 inch][0.25 inch][0.28 inch]<Insert dimension>** including manufacturer's standard clear wear layer and UV-cured polyurethane topcoat.
4. Nominal Size: **[6 by 48 inches][7 by 60 inches][8.85 by 60 inches][9 by 60 inches][9 by 72 inches]<Insert dimensions>**.

Retain "Color and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

5. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>**.

Retain "Recycled Content" Subparagraph below for LEED v4 MR Credit "Building Product Disclosure and Optimization - Sourcing of Raw Materials," Option 2 - "Leadership Extraction Practices."

6. Recycled Content: Provide manufacturer documentation for recycled content, indicating postconsumer and preconsumer recycled content.

Copy "Rigid Polymeric Core Floor Planks" Paragraph below and re-edit for each product required.

Insert drawing designation. Use these designations on Drawings to identify each product.

- F. Rigid Polymeric Core Floor Planks: Resilient flooring product with rigid polymeric core that is surface-decorated or -printed and protected by a clear wear layer [, **marketed as luxury vinyl planks (LVP)**,] with worked edges that allow the product to be joined or butted together to form a larger integral unit.

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]**:
 - a. **[American Biltrite]**

- b. **[Gerflor USA]**
 - c. **[Mannington Mills, Inc]**
 - d. **[Shaw Industries Group, Inc.; Berkshire Hathaway Company]**
 - e. **[Tarkett USA]**
 - f. **<Insert manufacturer's name>**
2. Classification: ASTM F3261, Class I, printed with clear transparent/translucent wear layer.
- a. Type: **[A, Smooth Surface][B, Embossed Surface]**.

Grade classification below represents total wear-layer thickness. Grade 1 (commercial) specifies minimum wear-layer thickness of 0.020 inch (0.5 mm); Grade 2 specifies wear-layer thickness less than 0.020 inch (0.5 mm).

- b. Grade: **[1][2]**.
 - c. Backing Class: **[A, no attached underlay backing][B, with attached underlay backing]**.
3. Overall Thickness: **[0.2 inch][0.236 inch][0.25 inch][0.28 inch]<Insert dimension>** including manufacturer's standard clear wear layer and UV-cured polyurethane topcoat.
4. Nominal Size: **[6 by 48 inches][7 by 60 inches][8.85 by 60 inches][9 by 60 inches][9 by 72 inches]<Insert dimensions>**.

Retain "Color and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

- 5. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>**.

Retain "Recycled Content" Subparagraph below for LEED v4 MR Credit "Building Product Disclosure and Optimization - Sourcing of Raw Materials," Option 2 - "Leadership Extraction Practices."

- 6. Recycled Content: Provide manufacturer documentation for recycled content, indicating postconsumer and preconsumer recycled content.

Copy "Rubber Floor Tiles" Paragraph below and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

- G. Rubber Floor Tiles: Resilient flooring product consisting of modular rubber tiles with smooth square edges.

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

- 1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work**

include, but are not limited to, the following]:

- a. **[Allstate Flooring]**
 - b. **[Altro]**
 - c. **[American Biltrite]**
 - d. **[Flexco Corporation]**
 - e. **[Mannington Mills, Inc]**
 - f. **[Mondo]**
 - g. **[Nora by Interface]**
 - h. **[PRF USA Inc]**
 - i. **[Roppe Corporation; Roppe Holding Company]**
 - j. **[Tarkett USA]**
 - k. **<Insert manufacturer's name>**
2. Classification: ASTM F1344, Type **[I-A, Homogeneous Rubber Tile, solid color][I-B, Homogeneous Rubber Tile, through mottled][II-A, Heterogeneous (Layered) Rubber Tile, solid-color wear layer][II-B, Heterogeneous (Layered) Rubber Tile, mottled wear layer]**.

See "Rubber Floor Tile" Article in the Evaluations for a discussion of hardness values.

- 3. Hardness: **[Grade 1, minimum hardness of 85][Grade 2, minimum hardness of 70][Manufacturer's standard hardness]**, when measured using Shore, Type A durometer in accordance with ASTM D2240.
- 4. Wearing Surface: **[Smooth][Embossed][Molded pattern]**.
 - a. Molded-Pattern Figure: **[Raised discs][Raised squares]<Insert pattern>**.

For molded-pattern (raised-pattern) rubber tile, overall thickness is generally measured at the thickest cross-sectional area of the flooring product. Revise "Thickness" Subparagraph below to include overall thickness for molded-pattern rubber tile.

- 5. Thickness: **[0.125 inch]<Insert dimension>**.
- 6. Size: **[12 by 12 inches][24 by 24 inches]<Insert dimensions>**.

Retain "Seamless-Installation Method" Subparagraph below only for seamless installation if applicable to Project. Generally, only some large-size rubber tiles can be heat welded or chemically bonded. See "Product Characteristics" Article in the Evaluations for a discussion of seamless installation.

- 7. Seamless-Installation Method: **[Heat welded][Chemically bonded]<Insert requirements>**.

Retain "Colors and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

- 8. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>**.

Retain "Recycled Content" Subparagraph below for LEED v4 MR Credit "Building Product Disclosure and Optimization - Sourcing of Raw Materials," Option 2 - "Leadership Extraction

Practices."

9. Recycled Content: Provide manufacturer documentation for recycled content, indicating postconsumer and preconsumer recycled content.

Copy "Vinyl Composition Floor Tiles" Paragraph below and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

- H. Vinyl Composition Floor Tiles: Resilient flooring product composed of binder, fillers, and pigments compounded with suitable stabilizers and processing aids.

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]**:
 - a. **[Armstrong Flooring, Inc.]**
 - b. **[Tarkett USA]**
 - c. **<Insert manufacturer's name>**
2. Classification: ASTM F1066, Class **[1, solid color][2, through pattern][3, surface pattern]**.
3. Wearing Surface: **[Smooth][Embossed]**.

A limited number of products are available in 3/32- and 3/16-inch (2.4- and 4.8-mm) thicknesses; if applicable, insert in "Thickness" Subparagraph below.

4. Thickness: **[0.125 inch]<Insert dimension>**.
5. Size: **12 by 12 inches**.

Retain "Colors and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

6. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>**.

Retain "Recycled Content" Subparagraph below for LEED v4 MR Credit "Building Product Disclosure and Optimization - Sourcing of Raw Materials," Option 2 - "Leadership Extraction Practices."

7. Recycled Content: Provide manufacturer documentation for recycled content, indicating postconsumer and preconsumer recycled content.

Copy "Resilient Terrazzo Floor Tiles" Paragraph below and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

- I. Resilient Terrazzo Floor Tiles: Marble or granite chips embedded in flexible, thermoset-

polyester-resin matrix; electrically nonconductive and chemical, oil, and corrosion resistive, with smooth wearing surface and manufacturer's standard factory-applied, protective coating.

Retain "Manufacturers" Subparagraph and list of manufacturers below to require products from manufacturers listed or a comparable product from other manufacturers.

1. Manufacturers: Subject to compliance with requirements, **[provide products by the following][provide products by one of the following][available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]**:
 - a. **[Floorazzo Tile, LLC]**
 - b. **[Nurrazzo]**
 - c. **<Insert manufacturer's name>**
2. Thickness: **[1/8 inch][3/16 inch]**.
3. Size: **[12 by 12 inches][24 by 24 inches][24 by 48 inches]**.

Resilient terrazzo tiles can be chemically welded for a seamless installation. Retain "Seamless-Installation Method" Subparagraph below if applicable to Project. See "Product Characteristics" Article in the Evaluations for a discussion of seamless installation.

4. Seamless-Installation Method: Chemically bonded.
5. Accessories:
 - a. Base: **[3 inches][4 inches][6 inches]** tall.
 - 1) Type: **[Sanitary, coved][Straight]**.
 - b. Divider strips.
 - c. **<Insert accessory>**.

Retain "Colors and Patterns" Subparagraph below if colors and patterns are not indicated in a separate schedule.

6. Colors and Patterns: **[As indicated by manufacturer's designations][Match Architect's samples]<Insert colors and patterns>**.

2.3 INSTALLATION MATERIALS

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

Retain "Adhesives" Paragraph below for adhered products.

- B. Adhesives: Water-resistant type recommended in writing by floor tile and adhesive manufacturers for substrate and conditions indicated.

Retain "Vapor Retarder" or "Asphalt-Saturated Felt" Paragraph below only for floating floor

installation method of LVT flooring products if applicable to Project.

- C. Vapor Retarder: ASTM D4397, polyethylene sheet not less than **[6.0 mils][8.0 mils]** thick.
- D. Asphalt-Saturated Felt: ASTM D4869/D4869M, Type II.

Retain "Seamless-Installation Accessories" Paragraph below only for chemically bonding resilient terrazzo flooring products if applicable to Project.

- E. Seamless-Installation Accessories: Manufacturer's standard product for chemically bonding seams.

Retain "Floor Polish" Paragraph below only for use with most vinyl composition floor tile and some solid vinyl floor tile. Liquid floor polish is generally used instead of paste wax. See "Maintenance Procedures" Article in the Evaluations for additional information.

- F. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

Retain "Joint Sealant for Resilient Terrazzo Floor Tile" Paragraph below only for resilient terrazzo floor tile.

- G. Joint Sealant for Resilient Terrazzo Floor Tile: Silicone sealant of type and grade recommended in writing by floor tile manufacturer to suit application.
 - 1. Joint-Sealant Color: **[White][As selected by Architect from manufacturer's full range to match floor tile][Match floor tile]<Insert color>**.

Retain "Sealers and Finish Coats for Resilient Terrazzo Floor Tile" Paragraph below only for resilient terrazzo floor tile.

- H. Sealers and Finish Coats for Resilient Terrazzo Floor Tile: Products recommended by floor tile manufacturer to suit application.

PART 3 - EXECUTION

3.1 INSTALLATION OF RESILIENT TILE AND PLANK FLOORING

- A. Comply with manufacturer's written installation instructions.
- B. Discard broken, cracked, chipped, or deformed tiles.
- C. 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][at a 45-degree angle with room axis][in pattern indicated]<Insert requirements>**.

Retain "Tile Matching" Paragraph below if applicable.

- D. Tile Matching: Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered.
 - 1. Lay tiles [**with grain running in one direction**][**with grain direction alternating in adjacent tiles (basket-weave pattern)**][**in pattern of colors and sizes indicated**].

If built-in items are required to be set on top of floor tile, indicate on Drawings and revise first paragraph below.

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

Retain first paragraph below for floor tile installed on floor covers.

- H. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

Retain "Adhered Floor Tile" Paragraph below if tiles are adhered to substrates.

- I. Adhered Floor Tile: Adhere floor tiles to substrates using a full spread of adhesive applied to substrate to comply with adhesive and flooring manufacturers' written installation instructions, including those for trowel notching, adhesive mixing, and adhesive open and working times, to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

Retain "Floating Floor Tile" Paragraph below only for LVT floor tiles if applicable to Project. Floating floors are not attached to other construction.

- J. Floating Floor Tile: Install LVT floor tiles in accordance with flooring manufacturer's written installation instructions.

Retain "Seamless Installation" Paragraph below only if required for resilient terrazzo floor tile.

- K. Seamless Installation: Bond seams with chemical-bonding compound to fuse sections permanently into a seamless flooring installation. Prepare seams and apply compound to produce tightly fitted seams without gaps, overlays, or excess bonding compound on flooring surfaces.

- L. Resilient Terrazzo Accessories: Install in accordance with manufacturer's written instructions.

END OF SECTION 09 65 19