

SECTION 09654 - LINOLEUM FLOOR COVERINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes linoleum sheet floor coverings.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings:
 - 1. Show locations of seams, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
 - 2. Show details of special patterns.
- C. Samples for Initial Selection: For each type of linoleum floor covering indicated.
 - 1. Include similar Samples of installation accessories involving color selection.
- D. Heat-Welded Seam Samples: For each flooring product and welding bead color and pattern combination required; with seam running lengthwise and in center of 6-by-9-inch (150-by-230-mm) Sample applied to rigid backing and prepared by Installer for this Project.
- E. Maintenance Data: For linoleum floor coverings to include in maintenance manuals.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs workers for this Project that are competent in techniques required by manufacturer for floor covering installation indicated.
 - 1. Engage an installer who employs workers for this Project that are trained or certified by floor covering manufacturer for installation techniques required.
- B. Fire-Test-Response Characteristics: Provide products identical to those tested for fire-exposure behavior per test method indicated by a testing and inspecting agency acceptable to authorities having jurisdiction.
- C. Mockups: Install mockups to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution.
 - 1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store floor coverings 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 (10 deg C) or more than 90 deg F (32 deg C).
 - 1. Sheet Floor Covering: Store rolls upright.

1.5 PROJECT CONDITIONS

- A. Maintain temperatures within range recommended by manufacturer, but not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C), in spaces to receive floor tile during the following time periods:
 - 1. 72 hours before installation.
 - 2. During installation.
 - 3. 72 hours after installation.
- B. After postinstallation period, maintain temperatures within range recommended by manufacturer, but not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).

- C. Close spaces to traffic during floor covering installation.
- D. Close spaces to traffic for 72 hours after floor covering installation.
- E. Install floor coverings after other finishing operations, including painting, have been completed.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Sheet Floor Covering: Furnish not less than 10 linear feet (3 linear m) in full roll width for every 500 linear feet (150 linear m) or fraction thereof, in roll form and in full roll width, of each different type, color, and pattern of sheet floor covering installed.

PART 2 - PRODUCTS

2.1 LINOLEUM FLOOR COVERING , L

- A. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Armstrong World Industries, Inc.;
 - 2. Azrock Commercial Flooring, DOMCO;.
 - 3. Forbo Industries, Inc.;
- B. Color and Pattern: As selected by Architect from manufacturer's full range.
- C. Sheet Floor Covering: ASTM F 2034.
 - 1. Roll Size: In manufacturer's standard length by not less than 78 inches (1980 mm) wide.
- D. Seaming Method: Heat welded.
- E. Thickness: ~~0.13 inch (3.2 mm)~~. **Change linoleum thickness to 2.5mm instead of 3.2mm as indicated. [Add7-13]**
- F. Fire-Test-Response Characteristics:
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm per ASTM E 648.

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 covering manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by floor covering manufacturer for products and substrate conditions indicated.
 - 1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. VCT and Asphalt Tile Adhesives: 50 g/L.
 - b. Rubber Floor Adhesives: 60 g/L.
- C. Heat-Welding Bead: Solid-strand product of floor covering manufacturer.
 - 1. Color: As selected by Architect from manufacturer's full range to contrast or match with floor covering.
- D. Metal Edge Strips: Extruded aluminum with mill finish, of width shown, of height required to protect exposed edge of floor covering, and in maximum available lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances, moisture content, and other conditions affecting performance.
 - 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 coverings.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written recommendations to ensure adhesion of floor coverings.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 - 2. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - 3. Moisture Testing:
 - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
 - b. Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
- C. Remove substrate coatings and other substances that are incompatible with floor covering adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
- D. Use trowelable leveling and patching compound to fill cracks, holes, and depressions in substrates.
- E. Move floor coverings and installation materials into spaces where they will be installed at least 72 hours in advance of installation.
 - 1. Do not install floor coverings until they are same temperature as space where they are to be installed.
- F. Sweep and vacuum clean substrates to be covered by floor coverings immediately before installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, and dust. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION, GENERAL

- A. Scribe and cut floor coverings to butt neatly and tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings.
- B. Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
- C. Maintain reference markers, holes, or openings that are in place or marked for future cutting by repeating on floor coverings as marked on subfloor. Use chalk or other nonpermanent marking device.
- D. Install floor coverings on covers for telephone and electrical ducts and similar items in finished floor areas. Maintain overall continuity of color and pattern with pieces of floor coverings installed on covers. Tightly adhere floor covering edges to substrates that abut covers and to cover perimeters.
- E. Adhere floor coverings to substrates 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.
- F. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and use welding bead to permanently fuse sections into a seamless floor covering. Prepare, weld, and finish seams to produce surfaces flush with adjoining floor covering surfaces.

3.4 SHEET FLOOR COVERING INSTALLATION

- A. Unroll sheet floor coverings and allow them to stabilize before cutting and fitting.
- B. Lay out sheet floor coverings as follows:
 - 1. Maintain uniformity of floor covering direction.
 - 2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches (152 mm) away from parallel joints in floor covering substrates.
 - 3. Match edges of floor coverings for color shading at seams.
 - 4. Avoid cross seams.
 - 5. Eliminate deformations that result from hanging method used during drying process (stove bar marks).

3.5 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing floor coverings:
 - 1. Remove adhesive and other surface blemishes from floor covering surfaces.
 - 2. Sweep and vacuum floor coverings thoroughly.
 - 3. Damp-mop floor coverings to remove marks and soil.
 - a. Do not wash floor coverings until after time period recommended by manufacturer.
- B. Protect floor coverings 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 in writing by manufacturer.
 - 1. Apply protective floor polish to surfaces that are free of soil, visible adhesive, and surface blemishes.
 - a. Seal linoleum as recommended by manufacturer but with not less than two coats of floor polish.
 - b. Use commercially available product acceptable to manufacturer.
 - c. Coordinate selection of floor polish with Owner's maintenance service.
 - 2. Cover linoleum floor coverings with undyed, untreated building paper until inspection for Substantial Completion.
 - a. Allow drying room film (yellow film caused by linseed oil oxidation) to disappear before Substantial Completion.
 - 3. Do not move heavy and sharp objects directly over floor covering surfaces. 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.

END OF SECTION 09654