

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- .1 Types of items described in this Section:
 - .1 Linoleum sheet flooring.
- .2 Types of items you will not find described in this Section:
 - .1 Linoleum floor tile.
 - .2 Resilient base, reducer strips, and other accessories installed with linoleum floor covering.

1.3 SUBMITTALS

- .1 Product Data: For each type of product indicated.
- .2 Sustainability Submittals: Provide the following:
 - .1 For adhesives, including printed statement of VOC content.
- .3 Samples for Verification: In manufacturer's standard size, but not less than 152-by-230 mm sections of each colour and pattern of floor covering required.
 - .1 Heat-Welding Bead: Include manufacturer's standard-size Samples, but not less than 230 mm long, of each colour required.
- .4 Heat-Welded Seam Samples: For each floor covering product and welding bead colour and pattern combination required; with seam running lengthwise and in center of 152-by-230 mm Sample applied to rigid backing and prepared by Installer for this Project.
- .5 Maintenance Data: For each type of floor covering to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- .1 Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor covering installation.
 - .1 Engage an installer who employs workers for this Project who are trained or certified by manufacturer for installation techniques required.
- .2 Mock-ups: Build mock-ups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - .1 Build mockups for floor coverings including integral-flash-cove-base when specified as a base and resilient base and accessories.
 - .1 Size: Minimum 9.2 sq. m for each type, colour, and pattern in locations directed by Public Works Representative.

1.5 DELIVERY, STORAGE, AND HANDLING

- .1 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 18 deg C or more than 32 deg C.
 - .1 Floor Tile: Store on flat surfaces.
 - .2 Sheet Flooring: Store rolls upright.

1.6 PROJECT CONDITIONS

- .1 Maintain ambient temperatures within range recommended by manufacturer, but not less than 21 deg C or more than 35 deg C, in spaces to receive floor coverings during the following time periods:
 - .1 72 hours before installation.
 - .2 During installation.
 - .3 72 hours after installation.
- .2 Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 13 deg C or more than 35 deg C.
- .3 Close spaces to traffic during floor covering installation.
- .4 Close spaces to traffic for 72 hours after floor covering installation.
- .5 Install floor coverings after other finishing operations, including painting, have been completed.

1.7 EXTRA MATERIALS

- .1 Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - .1 Sheet Flooring: Furnish not less than 3 linear m for every 150 linear m or fraction thereof, in roll form and in full roll width for each colour, pattern, and type of sheet flooring installed.

PART 2 - PRODUCTS

2.1 LINOLEUM FLOOR COVERING

- .1 Sheet Flooring
 - .1 ASTM F 2034, Type I, linoleum sheet with backing.
 - .2 Roll Size in manufacturer's standard length by not less than 1830 mm wide.
- .2 Seaming Method
 - .1 Heat welded, unless otherwise noted.
- .3 Thickness
 - .1 Not less than 2.5 mm unless otherwise noted.
- .4 Colours and Patterns
 - .1 As selected by Public Works Representative from full range of industry colours if not specifically indicated in *Interior Finishes Legend*.

2.2 INSTALLATION MATERIALS

- .1 Trowelable Levelling and Patching Compounds

- .1 Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- .2 Adhesives
 - .1 Water-resistant type recommended by manufacturer to suit products and substrate conditions indicated.
 - .2 Use adhesives that have a VOC content of not more than 50 g/L.
- .3 Heat-Welding Bead
 - .1 Solid-strand product of linoleum floor covering manufacturer.
 - .2 As selected by Public Works Representative from manufacturer's full range to contrast with linoleum floor covering.
- .4 Integral-Flash-Cove-Base Accessories
 - .1 Cove Strip: 25.4 mm radius provided or approved by manufacturer.
 - .2 Cove-Base Cap Strip: Square metal, vinyl, or rubber cap provided or approved by manufacturer.
- .5 Floor Polish
 - .1 Provide protective liquid floor polish products as recommended by manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- .2 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.
- .3 Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- .1 Prepare substrates according to manufacturer's written instructions to ensure adhesion of floor coverings.
- .2 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 floor covering adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
 - .3 Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
 - .4 Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
 - .1 Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapour-emission rate of 1.36 kg of water/92.9 sq. m in 24 hours.
 - .2 Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have maximum 75 percent relative humidity level measurement.
- .3 Fill cracks, holes, and depressions in substrates with trowelable levelling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

- .4 Do not install floor coverings until they are same temperature as space where they are to be installed.
 - .1 Move floor coverings and installation materials into spaces where they will be installed at least 72 hours in advance of installation.
- .5 Sweep and vacuum clean substrates to be covered by floor coverings immediately before installation.

3.3 INSTALLATION, GENERAL

- .1 Comply with manufacturer's written instructions for installing floor coverings.
- .2 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.
- .3 Extend floor coverings into toe spaces, door reveals, closets, and similar openings.
- .4 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.
- .5 Install floor coverings on covers for telephone and electrical ducts and similar items in finished floor areas. Maintain overall continuity of colour and pattern between pieces of floor covering installed on covers and adjoining floor covering. Tightly adhere floor covering edges to substrates that abut covers and to cover perimeters.
- .6 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.
- .7 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 LINOLEUM SHEET FLOORING INSTALLATION

- .1 Unroll sheet floorings and allow them to stabilize before cutting and fitting.
- .2 Lay out sheet floorings as follows.
 - .1 Maintain uniformity of floor covering direction.
 - .2 Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 152 mm away from parallel joints in floor covering substrates.
 - .3 Match edges of floor coverings for colour shading at seams.
 - .4 Avoid cross seams.
 - .5 Eliminate deformations that result from hanging method used during drying process (stove bar marks).
- .3 Integral-Flash-Cove Base
 - .1 Refer to drawings to determine if integral-flash cove base is required and if so, the locations required.
 - .2 Cove linoleum floor covering 152 mm unless otherwise noted up vertical surfaces. Support floor covering at horizontal and vertical junction with cove strip. Butt at top against cap strip.

3.5 CLEANING AND PROTECTION

- .1 Comply with manufacturer's written instructions for cleaning and protection of floor coverings.

- .2 Perform the following operations immediately after completing floor covering 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.
- .3 Protect floor coverings from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- .4 Floor Polish: Remove soil, visible adhesive, and surface blemishes from floor coverings before applying liquid floor polish.
 - .1 Apply three coat(s).
- .5 After allowing drying room film (yellow film caused by linseed oil oxidation) to disappear, cover floor coverings until Substantial Completion.

END OF SECTION .13