Part 1 General

1.1 RELATED SECTIONS

.1 Section 01 00 10 General Instructions.

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

- .1 ASTM D2047-11, Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine
- .2 ASTM D2240 – Standard Test Method for Rubber Property – Durometer Hardness
- .3 ASTM D7149-05 – Standard Practice for Determining Freeze Thaw Stability of Adhesives
- .4 ASTM E648-17 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.
- .5 ASTM E662 – Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
- .6 ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- .7 ASTM E2179 – Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors.
- .8 ASTM F150 Standard Test Method for Electrical Resistance of Conductive and Static Dissipative Resilient Flooring
- .9 ASTM F970 Standard Test Method for Static Load Limit
- .10 ASTM F710-11, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- .11 ASTM F1303 Standard Specification for Sheet Vinyl Floor Covering with Backing.
- .12 ASTM F1344 Standard Specification for Rubber Floor Tile
- .13 ASTM F1869-11, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- .14 ASTM F2170-11, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- .15 ASTM F1514 Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color
- .16 ASTM F1515 Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change
- .17 ASTM F1861 – Standard Specification for Resilient Wall Base

.2 CAN/ULC

- .1 CAN/ULC-S102.2: Surface Burning

.3 National Fire Protection Association (NFPA)

.1 NFPA 253 Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Energy Source

.2 NFPA 258 Test Method for Specific Density of Smoke Generated by Solid Materials

1.3 SUBMITTALS

.1 Provide submittals, product data, and samples in accordance with Section 01 00 10 – General Instructions.

.1 Submit duplicate 300 x 300 mm sample pieces of sheet material, 300 mm long base, nosing, feature strips, treads, three representative samples of each product specified for verification.

.2 Closeout Submittals:

.1 Provide maintenance data for resilient flooring for incorporation into manual specified in Section 01 00 10 – General Instructions, Closeout Procedures.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 00 10 General Instructions.

.2 Deliver materials in labeled packages. Store and handle in strict compliance with manufacturer's recommendations. Protect from damage due to weather, excessive temperatures, and construction operations.

.3 Deliver materials sufficiently in advance of installation to condition materials to the required temperature for 48-hours prior to installation.

.4 Waste Management and Disposal:

.1 Separate waste materials for reuse and recycling in accordance with Section 01 00 10 General Instructions.

1.5 AMBIENT CONDITIONS

1.6 Maintain temperature and humidity at service levels or the ambient temperature must remain steady (± 10ºF) and be between 59ºF and 80ºF for at least 48-hours prior, during and 72-hours after installation. .) The ambient relative humidity is recommended to be 50% RH ± 10%; however, dew point must be avoided.

1.7 MAINTENANCE

.1 Extra Materials:

.1 Provide extra materials of resilient sheet flooring and adhesives in accordance with Department Representative.

.2 Extra materials from same production run as installed materials.

.3 Identify each roll of sheet flooring and each container of adhesive.

.4 Deliver to Departmental Representativ, upon completion of the work of this section.

.5 Store where directed by Departmental Representative.

1.8 WARRANTY

.1 Provide manufacturer's standard limited warranty for wear, defect and conductivity.

Part 2 Products

2.1 MATERIALS

.1 Rubber Floor Tile (RFT) for commercial traffic:

.1 Rubber tile flooring, laminated products with backing are not acceptable. Random scattered and non-directional pattern. Vulcanized rubber compound 913 with environmentally compatible colour pigments, free of toxic heavy metals such as lead, cadmium or mercury. No wax or sealant, optional dry buff only.

.2 Rubber Tile, minimum 610 mm x610 mm x 2.0mm thick minimum

.3 CAN/ULC-S102-2 Surface Burning, FSC1 of 125 and SD of 370

.4 Smoke Density (ASTM E662/NFPA 258):

< 450 is required NBS, 196 (flaming) and 207 (non-flaming)

.5 Slip Resistance: Static coefficient of friction (James Test): ≥ 0.6 in accordance ASTM D2047 and compliant with ADA guidelines, 0.93 Dry, 0.90 Wet.

.6 Hardness: ASTM F1344, measured using Shore, Type A durometer per ASTM D2240. Not less than 85.

.7 Low VOC emissions, CA 01350 compliant.

.8 Cleaned and maintained effectively using water, and a suitable cleaning machine, without the use of any factory and/or field-applied coatings. Also without using any chemicals that may be hazardous or containing any teratogenic, mutagenic or any other ingredients known to be carcinogenic.

.9 Department representative to choose from one of the standard colours.

.10 Acceptable Products: Provide following items listed below. Confirm locations with Department Representative prior to installation.

.1 RSF:

.1 Basis of Design: Noraplan Sentica Tile

.2 Alternates acceptable:

.1 Johnsonite MicroTone Rubber Tile

.2 Anti-Slip Resiliant Flooring (ASRF) for commercial traffic:

.1 Resilient sheet safety flooring (non-skid finish): to ASTM F1303, Type 2, Grade 1, Class A moisture resistant backing. Combination of high quality vinyl content, aluminum oxide and coloured quartz grains throughout thickness; non-woven polyester/cellulose backing with glass fibre reinforcement; heat weld seams.

.1 Roll Width: 2000 mm nominal.

.2 Thickness: 2.5mm

.3 Slip Resistance: D.81 / W.89

.4 Colour: Allow for one colour selected by Departmental Representative from manufacturer's complete range.

.5 Provide material for prefabricated cove base in washroom and shower room.

.3 Resilient base: to ASTM F1861, Type TS (rubber thermoset), Group 1 (solid homogeneous), in coils of manufacturer's standard lengths. Outside and inside corners: job-formed.

.1 Type: rubber.

.2 Style: cove.

.3 Thickness: 3 mm.

.4 Height: 101.6 mm.

.5 Colour: selected by Departmental Representative.

.4 Resilient Stair Tread/Riser: 1 piece pre-shaped homogeneous rubber unit consisting of nosing, tread and riser, 45 mm (1-3/14") vertical face, round nose, 5 mm (3/16") thick, hammered tread surface, smooth riser surface, with contrasting colour inset strip where directed by Consultant. Slip resistance: ≥ 0.8 in accordance with ASTM D2047. Colour of tread and inset to be selected by Department representative.

.5 Primers and adhesives: of types recommended by resilient flooring manufacturer for specific material on applicable substrate, above, on or below grade.

.1 Rubber floor adhesives:

.1 Adhesive: maximum VOC limit 60 to SCAQMD Rule 1168.

.6 Metal edge strips:

.1 Aluminum extruded, smooth, with lip to extend under floor finish, shoulder flush with top of adjacent floor finish.

.7 Edging to floor penetrations: type recommended by flooring manufacturer.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 SITE VERIFICATION OF CONDITIONS

.1 Ensure concrete floors are clean and dry by using test methods recommended by flooring manufacturer.

3.3 PREPARATION

.1 Remove existing resilient flooring.

.2 Prepare existing subfloor to resilient flooring manufacturer's printed instructions and to ASTM F710.

3.4 APPLICATION: FLOORING

.1 Provide high ventilation rate, with maximum outside air, during installation, and for 48 hours prior to, during, and 72 hours after installation. If possible, vent directly to outside. Do not let contaminated air recirculate through district or whole building air distribution system. Maintain extra ventilation for the time recommended by the manufacturer.

.2 Apply adhesive uniformly using recommended trowel. Do not spread more adhesive than can be covered by flooring before initial set takes place.

.3 Lay flooring with seams parallel to building lines to produce a minimum number of seams.

.4 Run sheets in direction of traffic. Heat weld according to manufacturer's printed instructions.

.5 As installation progresses, and after installation roll flooring with weighted roller as per manufacturer’s instructions to ensure full adhesion.

.6 Cut flooring around fixed objects.

.7 Install flooring in pan type floor access covers. Maintain floor pattern.

.8 Continue flooring over areas which will be under built-in furniture.

.9 Continue flooring through areas to receive movable type partitions without interrupting floor pattern.

.10 Terminate flooring at centreline of door in openings where adjacent floor finish or colour is dissimilar.

.11 Install metal edge strips at unprotected or exposed edges where flooring terminates.

.12 Prevent all traffic for a minimum of 12-hours and rolling loads for 72-hours to allow the adhesive to cure. If required, after 12-hours protect the flooring from damage during construction operations using Masonite, plywood or a similar product, ensuring first that the flooring surface is free of all debris. Lay panels so that the edges form a butt joint and tape the joint to prevent both movement and debris entrapment underneath them. Inspect immediately before covering and after removal for final acceptance.

3.5 APPLICATION: STAIRS

.1 Finish stair risers with resilient sheet and install prior to tread material.

.2 Install stair treads one piece for full width of stair. Adhere over entire surface and fit accurately.

3.6 APPLICATION: BASE

.1 Lay out base to keep number of joints at minimum.

.2 Clean substrate and prime with one coat of adhesive.

.3 Apply adhesive to back of base.

.4 Set base against wall and floor surfaces tightly by using 3 kg hand roller.

.5 Install straight and level to variation of 1:1000.

.6 Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.

.7 Cope internal corners. Use premoulded corner units for right angle external corners. Use formed straight base material for external corners of other angles.

.8 Use toeless type base where floor finish will be carpet, coved type elsewhere.

.9 Install toeless type base before installation of carpet on floors.

.10 Heat weld base in accordance with manufacturer's printed instructions.

.11 Job-Formed Corners:

.1 Wrap base minimum 300 mm beyond corners. No joint at corners permitted.

.2 Outside corners: form without producting discolourations (whitening) at bends. Scibe back of base at bend locations and remove strips perpendicular to length of base that are only deep enough to produce snug fit, without removing more than half wall base thickness.

.3 Inside corners: Form by cutting inverted V-shape notch in toe of wall base at point where corner is formed. Scribe back of base where necessary to produce snug fit.

3.7 CLEANING

.1 Comply with manufacturer’s written instructions for cleaning and protection of flooring, wall base, and accessories. Cleaning should not occur sooner than 72 hours after the installation, as per manufacturer’s written instructions.

.2 Install Maintenance: Perform following operations immediately after completing flooring 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.

3.8 PROTECTION

.1 Protect new floors and installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by resilient flooring installation.

END OF SECTION