

1 General

1.1 **SECTION INCLUDES**

- .1 Labour, Products, equipment and services necessary for resilient tile flooring work and accessories in accordance with the Contract Documents.

1.2 **REFERENCES**

- .1 ASTM F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- .2 ASTM F1066, Specification for Vinyl Composition Floor Tile.
- .3 ASTM F1344, Standard Specification for Rubber Floor Tile.
- .4 ASTM F1861, Specification for Resilient Wall Base.
- .5 ASTM F1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- .6 ASTM F 2170, Standard Test Method for Determining Relative Humidity in Concrete Slabs Using in-situ Probes.
- .7 ASTM F2195, Standard Specification for Linoleum Tile Flooring.

1.3 **SUBMITTALS**

- .1 Product data:
 - .1 Submit copies of manufacturer's Product data in accordance with Section 01 33 00:
 - .1 Performance criteria, compliance with appropriate reference standard, characteristics, limitations.
 - .2 Product transportation, storage, handling and installation requirements.
- .2 Samples:
 - .1 Submit following samples in accordance with Section 01 33 00:
 - .1 Two 250 x 200 mm samples of each type of tile material and colour.
 - .2 Two 250 mm long samples of each base, accessory and colour.
 - .2 Allow for minimum two submissions.
 - .3 Submit samples in tandem with those of sections 06 20 00, 09 51 00, 09 65 00, 09 67 23 and 09 91 00. All submissions must be completed prior to consultant review. The Consultant will commence review and return the documentation only upon receipt of all required samples from all required listed sections.

- .4 Extended warranty: Submit extended warranty signed and registered by the manufacturer providing the warranty in the name of the Owner for the timeframe and coverage specified in this Section.
- .5 Closeout submittals: Submit maintenance and cleaning data for incorporation into Operations and Maintenance Manuals in accordance with Section 01 78 00.

1.4 **QUALITY ASSURANCE**

- .1 LEED requirements:
 - .1 The LEED requirements shall apply to all Sections and Work for this Project, whether specifically indicated or not.
 - .2 Compliance with requirements needed to obtain LEED prerequisites and credits will be used as one criterion to evaluate requests for substitutions or alternates.

1.5 **SITE CONDITIONS**

- .1 Maintain air temperature and structural base temperature at flooring installation area above 20°C for 48 hr before, during and 48 hr after installation.
- .2 Store materials for 2 days prior to installation in area of Work to achieve temperature stability.
- .3 Do not lay flooring in conditions of high humidity or where exposed to cold drafts. In hot weather, protect from direct sunlight.
- .4 Provide adequate ventilation during installation.

1.6 **MAINTENANCE**

- .1 Submit extra 5% or to nearest full carton of each colour, pattern and type of flooring material and base required for maintenance use. Identify each carton. Store where directed.

2 **Products**

2.1 **MATERIALS**

- .1 All materials under work of this Section, including but not limited to, primers, adhesives, sealers, and waxes are to have low VOC content limits.
- .2 Vinyl floor tile type 1 (**VFT-1**): Laminated vinyl plank Expona, Simplay PUR Light Grey Concrete 2567, Warm Grey Concrete 2568, Cold Grey Concrete 2566, Dark Grey Concrete 2569 or Black Slate 2582, by Polyflor or approved alternative, with minimum 0.7 mm thick wear layer, 600 x 600 mm and 5.0 mm thick, R10 slip resistance in accordance with standard DIN 51130. Allow for a minimum of 5 colours samples submitted to be selected by Consultant from manufacturer's full colour range. Allow for minimum two submissions.

- .3 Vinyl floor tile type 11 (**VFT-11**): Laminated vinyl plank Expona, Commercial PUR, Light Micro Terrazzo 5123, Grey Micro Terrazzo 5124, Warm Micro Terrazzo 5125, Silica Micro Terrazzo 5126 or Black Textile 5077, by Polyflor or approved alternative, with minimum 0.55 mm thick wear layer, 609.6 x 1219.2 mm and 2.5 mm thick, R10 slip resistance in accordance with standard DIN 51130. Allow for a minimum of 5 colours samples submitted to be selected by Consultant from manufacturer's full colour range. Allow for minimum two submissions.
- .4 Vinyl floor tile type 2 (**VFT-2**): Laminated vinyl plank Expona, Simplay PUR Honey Wild Oak 2572, American Oak 2503, Light Cherry 2501, Medium Classic Oak 2521 or Brown Wild Oak 2570, by Polyflor, or approved alternative, with minimum 0.7 mm thick wear layer, 178 x 1220 mm and 5.0 mm thick, R10 slip resistance in accordance with standard DIN 51130. Allow for a minimum of 5 colours samples submitted to be selected by Consultant from manufacturer's full colour range. Allow for minimum two submissions.**82 W Spec'ed**
- .5 Vinyl floor tile type 22 (**VFT-22**): Laminated vinyl plank Next Floor, Botanica, 587 002 Spring Oak, 587 201 Roasted Sesame, 587 003 Classic Oak, 587 201 Chateau Tan or 587 009 Tawny Oak, or approved alternative, with minimum, 200 x 1220 mm and 6.5 mm thick, 0.95 Coefficient of Friction in accordance with ASTM 2047. Allow for a minimum of 5 colours samples submitted to be selected by Consultant from manufacturer's full colour range. Allow for minimum two submissions.**82 W Alt installed**
- .6 Solid colour Rubber Stair Tread (**SRST**) with Integrated Riser AngleFit by Tarkett/ Johnsonite, Raised Round texture, Colour 190 Greege, with flexible vinyl stair nosing and black grit tape for the visually impaired, or approved alternative. Allow for a minimum of 5 colours samples submitted to be selected by Consultant from manufacturer's full colour range. Allow for minimum two submissions.
- .7 Tactile Warning Indicator (**TWS1**) for floor thickness lesser than 5mm: Rubber tile with integral non-slip surface stamped into tile on top of domes. Tile shall incorporate an in-line pattern of truncated domes measuring nominal 5 mm high x 23 mm base diameter x 11 mm top diameter, space 61 mm o.c. diagonally and 43 mm side by side. Tiles shall be in colour as selected by Consultant; 'Eon Tile' by Kinesik Engineered Products or approved alternative. Allow for 5 colours submitted to be selected by Consultant. Allow for minimum two submissions.
- .8 Rubber Tactile Warning Surface (**TWS1**) for floor thickness greater than 5mm: Solid rubber tactile walking surface indicators, 4.0 mm dome height with 3.2 mm base thickness; 7.2 mm overall thickness. Homogeneous composition of 100% synthetic rubber, high quality additives, and colorants to meet the performance requirements of ASTM F 1344, Class 1-A and 1-B Standard Specification for Rubber Floor Tile. 'Tactile Walking Surface Tile Resilient' by Tarkett or approved alternative. Allow for 5 colours submitted to be selected by Consultant. Allow for minimum two submissions.
- .9 Rubber base (**RB**): ASTM F1861, Type TP, Group 1, rubber wall base, approximately 114 mm high x 9.5 mm thick, profile as indicated, in lengths as long as possible including premoulded end stops and inner and outer corners. Colour: Allow for a minimum of 5 six (five) colours samples to be selected by Consultant. 'Millwork Wall Base - Mandalay MW-XX-H4' by Tarkett or approved alternative. Allow for minimum two submissions.

- .10 Primers and adhesives: Low VOC, waterproof, recommended by flooring manufacturer for specific material on applicable substrate, above, at or below grade.
- .11 ~~Concrete~~ **Gypsum topping underlayment** skim coat compound: High-performance, rapid-setting cement based skim coating compound. ~~'Ultra-SkimCoat'~~ **'Planiprep SC' (for dry areas) and 'Planiprep PSC' (for wet areas)** by Mapei ~~or approved alternative~~ for filling minor voids and leveling existing substrate.
- .12 Sealer and wax: Type recommended by flooring manufacturer.

3 Execution

3.1 EXAMINATION

- .1 Verify condition and dimensions of previously installed Work upon which this Section depends. Report defects to Consultant. Commencement of work of this Section means acceptance of existing conditions.
- .2 Ensure ~~concrete~~ **Gypsum topping underlayment** floors meet the following minimum requirements and requirements of the flooring manufacturer. If there is a conflict between these requirements and those of the flooring manufacturer, the more stringent shall apply.
 - .1 Internal Relative Humidity Test: Perform internal relative humidity testing in accordance with ASTM F2170. Results shall not exceed 80% RH.
 - .2 Moisture Test: Moisture emissions from concrete subfloors (cured for a minimum of 28 days) must not exceed 3 lbs per 1000sf per 24 hours (1.4 kg H₂O/24 hr/93 m²) for acrylic adhesive and Slbs for polyurethane adhesive via the Calcium Chloride Test Method (ASTM F1869).
 - .3 The pH level of the subfloor surface shall not be higher than 9.9. If higher, subfloor must be neutralized.
- .3 Ensure that sub-floors have been provided as specified without holes, protrusions, cracks, depressions or other major defects.
- .4 Ensure that control joints have been filled and levelled.
- .5 Defective work resulting from application to unsatisfactory surfaces will be considered the responsibility of those performing the work of this Section.

3.2 SUBFLOOR TREATMENT

- .1 Flooring shall be installed over subfloors conforming to ASTM F710 for concrete.
- .2 Remove ~~sub-floor~~ **Gypsum topping underlayment** ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.

- .3 Apply sub-floor filler to low spots and cracks to achieve floor level to a tolerance of 1:1000, allow to cure.
- .4 Meet ASTM F710 Standard for Concrete or other monolithic floors.
- .5 Clean and remove all deleterious materials from surfaces to receive this work in accordance with the adhesive manufacturer's recommendations.
- .6 Prime concrete to flooring manufacturer's printed instructions.
 - .1 Apply 'Primer L' (diluted 3 water: 1 primer) or 'Primer T' (diluted 2 water: 1 primer) by Mapei. Two coats may be required depending on porosity.
- .7 Apply cementitious skim coating and patching compounds 'Planiprep SC' (for dry areas) and 'Planiprep PSC' (for wet areas) by Mapei.
- .8 Ensure that the gypsum topping underlayment is sufficiently dry, intact, well-bonded, stable, and free of existing cracks, and not powdery.

3.3 RESILIENT TILE FLOORING ADHERED APPLICATION (VFT)

- .1 Install resilient tile flooring in accordance with manufacturer's written instructions.
- .2 Apply waterproofing coating 'Mapelastic AquaDefense' (for wet areas) by Mapei.
- .3 Apply adhesive uniformly using recommended trowel in accordance with flooring manufacturer's instructions. Do not spread more adhesive that can be covered by flooring before initial set takes place.
 - .1 Skim the 'Mapelastic AquaDefense' with 'Planiprep PSC', then install the LVP applying 'Ultrabond ECO 399', by Mapei, or
 - .2 Apply 'Ultrabond ECO MS 4 LVT' by Mapei (both for wet areas), and
 - .3 'Ultrabond ECO 373' (for the dry areas).
 - .4 All products by Mapei.
- .4 Lay flooring with joints straight and parallel to building lines to produce symmetrical tile pattern. Install equal size perimeter tile on each side.
- .5 Install flooring to square grid pattern with all joints aligned.
- .6 As installation progresses, and after installation, roll flooring in 2 directions with minimum 45 kg minimum roller to ensure full adhesion.
- .7 Remove adhesive seepage at seams or surface while adhesive is still wet, in accordance with manufacturer's recommendation.
- .8 Cut tile and fit neatly around fixed objects.
- .9 Install feature strips and floor markings where indicated. Fit joints tightly.
- .10 Terminate flooring at centerline of door in openings where adjacent floor finish or colour is dissimilar.

3.4 **RESILIENT TILE FLOORING INTERLOCKING APPLICATION (SPC)**

- .1 Install resilient tile flooring in accordance with manufacturer's written instructions.

3.5 **RESILIENT BASE APPLICATION**

- .1 Install resilient base in accordance with manufacturer's written instructions.
- 2 Lay out base to keep number of joints at minimum.
- 3 Prior to installing base, fill cracks and irregularities with a filler recommended by base manufacturer.
- 4 Set base in adhesive using a 3 kg hand roller, against wall and floor surfaces.
- Install straight and level to variation of 1:1000.
- 5 Scribe and fit to door frames and other obstructions.
- 6 Cope internal corners.

3.6 **EDGE PROTECTION TRIM**

- .1 Install edge protection trim at unprotected or exposed edges where flooring terminates and at edges where there are two finishes of different thicknesses.
- .2 Install accessories in accordance with manufacturer's written instructions.

3.7 **CLEANING AND WAXING**

- .1 Forty-eight hours after installation, clean vinyl tile surfaces with a mild soap solution approved by finish manufacturer. Rinse clean, dry and apply 2 coats of wax. Polish thoroughly.

3.8 **PROTECTION OF FINISHED WORK**

- .1 Protect floors from time of final set of adhesive until final waxing.
- .2 Prohibit traffic on floor for 48 hours after installation.
- .3 Cover waxed and polished surfaces with fibre reinforced, clean, non-staining kraft paper. Secure in position with gummed tape to prevent drifting. Remove covering when directed by Consultant.

END OF SECTION