

1 General

1.1 **SECTION INCLUDES**

- .1 Labour, Products, equipment and services necessary for tactile walking surface indicator work in accordance with the Contract Documents.

1.2 **REFERENCES**

- .1 ASTM C1028, Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
- .2 ***ASTM F1344, Standard Specification for Rubber Floor Tile.***
- .3 ISO 23599, Assistive Products for Blind and Vision-Impaired Persons - Tactile Walking Surface Indicators.
- .4 CAN/ULC S102.2, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies.

1.3 **DESIGN REQUIREMENTS**

- .1 Design detectable tile system conforming to ISO 23599.

1.4 **SUBMITTALS**

- .1 Product data:
 - .1 Submit copies of manufacturer's Product data in accordance with Section 01 33 00 indicating:
 - .1 Performance criteria, compliance with appropriate reference standard, characteristics, limitations and warranties.
 - .2 Product transportation, storage, handling and installation requirements.
 - .2 Shop drawings:
 - .1 Submit shop drawings in accordance with Section 01 33 00 indicating:
 - .1 Perimeter conditions, junctions with dissimilar materials.
 - .2 Setting details.
- .3 Samples: Submit two 300 x 300 mm samples of each type of detectable/tactile warning surfaces in accordance with Section 01 33 00.
- .4 Closeout submittals: Submit recommended maintenance instructions and listing of recommended maintenance Products for incorporation into Operations and Maintenance Manuals in accordance with Section 01 78 00.

1.5 **QUALITY ASSURANCE**

- .1 Mock-up:
 - .1 Construct full mock-up of each detectable tactile tile systems in location acceptable to Consultant.
 - .2 Construct full mock-up of each detectable tactile tile systems including installation adjacent to each floor materials in location acceptable to Consultant.
 - .3 Demonstrate colour disbursement and finishing.
 - .4 Arrange for Consultant's review and acceptance.
 - .5 Mock-up may remain as part of Work if accepted by Consultant. Remove and dispose of mock-ups which do not form part of Work.
 - .6 Upon acceptance, mock-up shall serve as

1.6 **DELIVERY, STORAGE AND HANDLING**

- .1 Deliver materials in adequate crates or containers with manufacturer's name and product description clearly marked.
- .2 Handle and store tiles in a manner to avoid chipping or breakage. Take precautions to protect the adhesives from freezing or from excessive heat.

1.7 **SITE CONDITIONS**

- .1 Do not install work of this Section outside of the following environmental ranges without the Consultant's and Product manufacturer's written acceptance:
 - .1 Ambient air and surface temperature: Minimum 40°F.
 - .2 Precipitation: None.
- .2 Install temporary protection and facilities to maintain the Product manufacturer's, and specified, environmental requirements for 7 Days before, during, and 7 Days after installation.

1.8 **MAINTENANCE**

- .1 Submit extra tile amounting to 3% of gross area covered, allowing proportionately for each pattern and type specified and which are part of the same Production run as installed Products. Store maintenance Products as directed by the Consultant.

2 Products

2.1 **MATERIALS**

- .1 All materials under work of this Section, including but not limited to, sealants and adhesives are to have low VOC content limits.

- .2 Tactile Walking Surface Indicator (TWSI):
 - .1 Conforming to ISO 23599 and meeting AODA Requirements.
 - .2 Dome: Clear aluminum finish containing truncated domes with a top dome diameter of 23 mm and a dome height of 5 mm, domes to be spaced out at 60 mm. 'UAS-AL2218' by Urban Access Solutions or approved alternative.
 - .3 Colours: Refer to Interior Finishes Materials Schedule.
 - .4 Adhesive: Bonding adhesive as approved by tactile tile manufacturer.
- ~~.3 Wayfinding Tile (TWFT):~~
 - ~~.1 Conforming to ISO 23599 and meeting AODA Requirements.~~
 - ~~.2 Strips: 300 x 300 x 10 mm thick porcelain tile containing wayfinding bars with a top dome diameter of 17 mm and a dome height of 4 mm, domes to be spaced out at 75 mm. 'ELAN-B-1212' by Kinesik Engineered Products or approved alternative.~~
 - ~~.3 Colours: Refer to Interior Finishes Materials Schedule.~~
 - ~~.4 Coordinate with Landscape Consultant and Landscape Drawings.~~
 - ~~.5 Adhesive: Bonding adhesive as approved by tactile tile manufacturer.~~
- .3 **Tactile dome indicators (polished concrete flooring):**
 - .1 **Provide 4 mm high tactile warning dome indicators, in Type 316L, marine grade, stainless steel with non-slip concentric rings, with top diameter of 22 mm and base shaft height of 18 mm, arranged in intended pattern.**
 - .2 **Individual domes, Advantage One 316L Stainless Steel Dome by Advantage Tactile Systems or approved alternative.**
 - .3 **Adhesive: Type as recommended by tactile dome manufacturer.**
- .4 **Ceramic tactile tile:**
 - .1 **Conforming to ISO 23599 and meeting AODA Requirements.**
 - .2 **Dome: 297 x 297 x 10 mm thick porcelain tile containing truncated domes with a top dome diameter of 12 mm and a dome height of 4 mm, domes to be spaced out at 60 mm o.c. 'Elan Porcelain Tactile Indicator' by Kinesik or approved alternative. Colour: 'Cultured Grey'.**
- .5 **Tactile attention indicator tiles and strips (stair nosing):**
 - .1 **Conforming to ASTM F1344 and ULC S102.2, rubber tactile tiles with 3.2 mm base thickness, size as indicated on Drawings, incorporating truncated domes with domes measuring 4 mm high.**
 - .2 **Colour: to be selected by consultant (2 standard colours).**
 - .3 **Acceptable Product: 'Johnsonite Tactile Walking Surface' as manufactured by Tarkett North America or approved alternative.**
- .6 Fasteners: Colour matched, corrosion resistant, flat head drive anchor as recommended by tile 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.

3.2 **PREPARATION**

- .1 Prepare substrate using steel aggregate blast method and vacuum substrate free of debris and dust.
- .2 Fill minor cracks and voids and prime surfaces in accordance with manufacturer's recommendations.
- .3 Protect adjacent surfaces from damage resulting from this work. Mask and/or cover adjacent surfaces, fixtures, and equipment as necessary.
- .4 Clean, prime and seal surfaces as recommended by detectable tile manufacturer.

3.3 **SURFACE APPLIED INSTALLATION**

- .1 Apply adhesive to backside of tile, following perimeter and internal cross pattern established by tile manufacturer. Ensure sufficient adhesive has been placed on prescribed areas to have full coverage across width of adhesive locator and shall be applied to within 6 mm continuously around perimeter edge of tile.
- .2 Set tile true and square to areas as detailed on drawings.
- .3 Working from centre of tile outwards, proceed to drill and install all fasteners in tile's moulded recesses.
- .4 Drill hole while standing with both feet applying pressure around moulded recess in tile, drill through tile without hammer option until tile has been penetrated, then with hammer option to drill into concrete. Maintain foot pressure on both sides of hole while drilling to prevent concrete dust from accumulating between tile and concrete.
- .5 Immediately after drilling each hole, mechanically fasten tile to concrete substrate while still applying foot pressure. Ensure fastener has been placed to full depth in dome, straight, and flush to the top of dome and drive pin of fastener with mallet.
- .6 Apply perimeter caulking sealant in accordance with sealant manufacturer's recommendations and Section 07 92 00.

3.4 **CAST-IN-PLACE INSTALLATION**

- .1 ***Install cast-in-place tile in accordance with manufacturers written instructions and in coordination with Division 3.***

- .2 *Ensure concrete has been poured and finished true and smooth to required dimensions and slope prior to tile placement.***
- .3 *Place tile into fresh concrete and tamp to ensure that top of domes are level to adjacent concrete. Do not step on tiles.***
- .4 *Provide a 9.5 mm radius edge around tile perimeter flush to field level while concrete is still workable.***
- .5 *Do not allow walking, leaning or external forces be placed on tile. Provide two suitable weights of 25 lb each placed on each tile as necessary to ensure solid contact of underside of tile to concrete.***
- .6 *Remove protective plastic wrap from tile following concrete curing stage, using a sharp knife, tight to concrete/tile interface. Concrete bleed under plastic can be removed with a soft brass wire brush without damage to the tile surface.***

3.5 STAIR INSTALLATION

- .1 Install tactile indicator and wayfinding bar tiles at top and bottom of stair in accordance with manufacturers written instructions using adhesive and fasteners and to conform to standards.**
- .2 Install tactile indicator and wayfinding bar at tiles at top and bottom of stair and layouts as per Architecture Drawings and details. Coordinate with Landscape Consultant and Landscape Drawings.**
- .3 Set tile true and square to areas as detailed on drawings.**

3.6 CLEANING AND PROTECTION

- .1 Clean tiles in accordance with manufacturer's written instructions.**
- .2 Prevent traffic over new installed detectable tiles, and protect from weather, freezing, and water immersion, for 24 hours minimum, after final installation.**
- .3 Cover work temporarily with plywood until work has been approved by Consultant.**

END OF SECTION