SECTION 32 17 26.13 – tactile warning surface - surface mount

1. General
   1. Summary
      1. This Section includes requirements for supply, fabrication, and installation of the following:
         1. Surface mount, tactile warning surface tiles in an inline truncated dome pattern on all stair landings at locations and to dimensions indicated on Drawings.
         2. Scarifying of existing concrete surface to allow for flush mounting of tactile warning surface tile with existing concrete stair.
   2. Submittals
      1. Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.
      2. Product Data: Submit manufacturer's literature describing products, installation procedures and maintenance instructions.
      3. Shop Drawings: Submit manufacturer's standard Shop Drawings showing all pertinent characteristics of the surface mounted tactile warning tile, including profile, fastener locations and installation methods.
      4. Samples for Verification Purposes: Submit two (2) samples of tactile warning surface tile, a minimum of 200 mm x 200 mm (8" x 8"), labeled and containing the following information: Name of Project, Submitted by, Date of Submittal, Manufacturer's Name, and Catalog Number.
      5. Maintenance Instructions: Submit copies of manufacturer's specified maintenance practices for each type of tactile warning surface tile and accessories.
   3. Quality Assurance
      1. Provide tactile warning surface tiles as produced by a single manufacturer with a minimum of five years experience in manufacturing surface mounted tactile warning tiles.
      2. Installer's Qualifications: Engage an experienced installer certified in writing by the Tactile Warning Surface manufacturer, who has successfully completed installations similar in material, design, and extent to that indicated for the Contract.
      3. Tactile Warning Surface Tiles: Compliant with ADAAG, PROWAG, ISO 23599 requirements as well as CSA B651-12 Accessible Design for the Built Environment.
2. Products
   1. manufacturers
      1. Acceptable Materials Manufacturers: Subject to compliance with requirements specified in this Section and as established by the Basis-of-Design Materials, manufacturers offering products that may be incorporated into the Work include but are not limited to, the following:
         1. ADA Solutions Inc., Model ADA SA TWS Panels, 2.35" dome spacing, or approved equivalent, as accepted by the Consultant.
   2. PERFORMANCE CRITERIA
      1. Water Absorption: Not to exceed 0.20%, when tested in accordance with ASTM D 570.
      2. Slip Resistance: 0.80 minimum combined wet/dry static coefficient of friction when tested in accordance with ASTM C 1028.
      3. Compressive Strength: 25,000 psi minimum, when tested in accordance with ASTM D 695.
      4. Tensile Strength: 10,000 psi minimum, when tested in accordance with ASTM D 638.
      5. Flexural Strength: 25,000 psi minimum, when tested in accordance with ASTM D 790.
      6. Abrasion Resistance: 300 minimum, when tested in accordance with ASTM C501.
      7. Flame Spread: 25 maximum, when tested in accordance with CAN/ULC-S102.
      8. Salt and Spray Performance of Tactile Warning Surface: No deterioration or other defects after 200 hours of exposure, when tested in accordance with ASTM B 117.
   3. MATERIALS
      1. Tile Composition: Tactile warning surface tiles shall be manufactured using an exterior grade, homogeneous glass and carbon reinforced polyester based Sheet Molding Compound (SMC) composite material.
         1. Truncated domes contain fibreglass reinforcement.
         2. Colour: Homogeneous throughout Tile:
            1. Federal Yellow (Y).
      2. Domes:
         1. Square grid pattern of raised truncated domes of 5 mm (0.2") nominal height, base diameter of 22.8 mm (0.9") and top diameter of 11.5 mm (0.45").
         2. Dome Spacing: Center-to- center (horizontally and vertically) spacing of 60 mm (2.35").
         3. Field Area: Consisting of a non-slip textured surface with a minimum static coefficient of friction of 0.80, wet and dry. At a minimum, the thickness of the body of tactile warning surface tile measures 4.8 mm (0.1875") nominal.
      3. Tile Dimensions:
         1. Rectangular Tile; 610 mm (24") deep x 1524 mm (60") long. Provide different tile lengths to reduce the amount of cut tiles. Center tiles evenly over stair edge, as approved by the consultant. Minimum tile length: 229 mm (9").
      4. Fasteners: The tactile warning surface tile shall have minimum twelve to twenty-four countersunk fastening holes, depending on the length of the tile. Color matched, stainless steel 304, flat head drive anchor: 6 mm (1/4") diameter x 38 mm (1-1/2") long.
      5. Adhesive and Sealants: As recommended by tactile warning surface tile manufacturer.
3. Execution
   1. preparation
      1. Substrate Condition:
         1. Ensure substrate has been scarified at a depth to allow tactile warning surface tile to install flush with adjacent existing concrete stair level.
         2. Ensure substrate is in suitable condition, and in compliance with material manufacturer's recommendations, to receive Work of this Section.
   2. INSTALLATION
      1. Tactile warning surface tile shall be installed per manufacturer's instructions.
      2. When multiple tactile warning surface tile regardless of size are used, the truncated domes shall be aligned between the tactile warning surface tiles and throughout the entire tactile warning surface installation.
      3. Minimize cutting of tactile warning surface tiles on site.
      4. Remove tile inclined edge prior to tile installation.
      5. Apply adhesive on the backside of tactile warning surface tile following the perimeter and internal cross pattern established by the SA Tile manufacturer.
      6. Set Tactile warning surface tiles true and square to the stair edge as detailed in the Drawings, allowing 3 mm (1/8") separation between successive SA Tiles for expansion and contraction.
      7. Drill holes true and straight to a depth of 63.5 mm x 6 mm (2-1/2" x 1/4") using the recommended bit. As necessary, additional countersunk holes may be added to tactile warning surface tile.
      8. Mechanically fasten tactile warning surface tile to the concrete substrate using composite sleeve anchors. Ensure that the fastener has been set to full depth, straight and true.
      9. Following the installation of tactile warning surface tiles, apply sealant to the perimeter edge. Follow the tactile warning surface manufacturer's recommendations when applying the sealant in a cove type profile to blend and seal the SA Tile edge to the adjoining surfaces.
      10. Do not allow foot traffic on installed tactile warning surface tile until the perimeter edge sealant has cured sufficiently to avoid tracking.

END OF SECTION