

**ITEM 0102321**

**8" REINFORCED CONCRETE SIDEWALK RAMP**

**DESCRIPTION**

This item shall include saw-cutting and removal of existing curb and walk, if required, furnishing material and labor for the construction of an 8" monolithic reinforced concrete sidewalk ramp (Type I, II, or III), see standard details on a new 12" processed traprock foundation all in accordance with the plans and these specifications and making all necessary pavement repairs in front of the ramp, backfilling along the edges, and restoration of grassed areas disturbed by this work.

**REFERENCED ITEMS**

Item 0102301

**REQUIRED SUBMITTALS**

Material Certificate of Compliance:

Submit 5 copies of material certificate of compliance for detectable warning strips in accordance with the contract general requirements.

**MATERIALS**

All material requirements of Item 0102301 shall apply to this Item.

Detectable warning strips shall be:

Vitrified Polymer Composite (VPC) cast-in-place tiles shall be an epoxy polymer composition with an ultra violet stabilized coating employing aluminum oxide particles in the truncated domes. The tile shall incorporate an in-line dome pattern of truncated domes 0.2" in height, 0.9" diameter at the base, and 0.4" diameter at top of dome spaced 2.35" nominal as measured on a diagonal and 1.70" nominal as measured side by side. For wheelchair safety the field area shall consist of a non-slip surface with a minimum of 40 - 90° raised points 0.045" high, per square inch; "Armor-Tile" as manufactured by Engineered Plastics Inc., or approved equal.

1. Dimensions: Tile Assemblies shall be held within the following dimensions and tolerances:

Length and Width:	:	24"x36" nominal
Depth	:	1.400" ± 5% max.

Face Thickness : 0.1875 ± 5% max.  
Warpage of Edge : ± 0.5% max.

2. Water Absorption of Tile when tested by ASTM-D 570 not to exceed 0.35%.
  3. Slip Resistance of Tile when tested by ASTM-C 1028 the combined wet/dry static co-efficient of friction not to be less than 0.90 on top of domes and field area.
  4. Compressive Strength of tile when tested by ASTM-D 695-91 not to be less than 18,000 psi.
  5. Tensile Strength of Tile when tested by ASTM-D 638-91 not to be less than 10,000 psi.
  6. Flexural Strength of Tile when tested by ASTM - C293-94 not to be less than 24,000 psi.
  7. Chemical Stain Resistance of Tile when tested by ASTM-D 543-87 to withstand without discoloration or staining - 1% hydrochloric acid, urine, calcium chloride, stamp pad ink, gum and red aerosol paint.
  8. Abrasive Wear of Tile when tested by BYK - Gardner Tester ASTM-D 2486\* with reciprocating linear motion of  $37 \pm$  cycles per minute over a 10" travel. The abrasive medium, a 40 grit Norton Metallite sand paper, to be fixed and leveled to a holder. The combined mass of the sled, weight and wood block to be 3.2 lb. Average wear depth shall not exceed 0.030 after 1000 abrasion cycles measured on the top surface of the dome representing the average of three measurement locations per sample.
  9. Fire Resistance: When tested to ASTM E84 flame spread be less than 25.
  10. Gardner Impact to geometry "GE" of the standard when tested by ASTM-D 5420-93 to have a mean failure energy expressed as a function of specimen thickness of not less than 450 in. 1bf/in. A failure is noted if a hairline fracture is visible in the specimen.
  11. Accelerated Weathering of Tile when tested by ASTM-G26-95 for 2000 hours shall exhibit the following result - no deterioration, fading or chalking of surface of tile.
- F. Vitrified Polymer Composite (VPC) Cast-In-Place Tiles embedded in concrete shall meet or exceed the following test criteria:
1. Accelerated Aging and Freeze Thaw Test of Tile when tested to ASTM-D 1037 shall show no evidence of cracking, delamination, warpage, checking, blistering, color

change, loosening of tiles or other defects.

Salt and Spray Performance of Tile and Adhesive System when tested to ASTM-B 117 not to show any deterioration or other defects after 100 hours of exposure.

**CONSTRUCTION METHODS**

All construction methods of item 0102301 shall apply to this item except as follows:

That the texture on the ramp surface not covered by tactile warning strip shall be heavier broom finish than the texture used on the surrounding sidewalk. The rough texture will provide the necessary non-slip surface on the steeper grade.

Installation of tactile warning strips shall be per the manufacturer's requirements.

**METHOD OF MEASUREMENT**

This work will be measured for payment by the actual number of square feet of completed and accepted 8" reinforced concrete sidewalk ramp.

**BASIS FOR PAYMENT**

This work will be paid for at the contract unit price per square foot for "8" REINFORCED CONCRETE SIDEWALK RAMP". Complete in-place, which price shall include all saw-cutting, transverse expansion joints, dowels, tactile warning strip, excavation, backfill, disposal of surplus material, processed traprock base, concrete foundation, equipment, tools, loam and seed to disturbed grassed areas and all materials and labor incidental thereto.

<b><u>PAY ITEM</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PAY UNIT</u></b>
0102321	8" Reinforced Concrete Sidewalk Ramp	SF