

SECTION 321726.02 - TACTILE WARNING TRUNCATED DOMES DETECTABLE WARNINGS**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Truncated Domes Detectable Warnings.

1.2 RELATED REQUIREMENTS

- A. 033000 - Cast-in-place Concrete: Concrete for sidewalks and platforms.
- B. 321313 - Concrete Paving: Concrete sidewalks.
- C. 321723 - Pavement Markings: Crosswalk and curb markings.

1.3 SUBMITTALS

- A. Qualification Data: For installer including documentation of approval and training by manufacturer.
- B. Product Data: Provide product criteria, characteristics, and required details.
- C. Manufacturer's Installation Instructions: Indicate special preparation of substrate, installation and attachment methods, and perimeter conditions requiring special attention.
- D. Warranty: Submit warranties upon completion of work and ensure forms have been completed in Owner's name within 10 days of scope completion.
- E. Maintenance Data: For users operation and maintenance of system including:
 - 1. Methods for maintaining system's materials and finishes.
 - 2. Precautions about cleaning materials and methods that could be detrimental to components, finishes, and performance.



1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Authorized and trained by manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. As required by the manufacturer for a warrantable installation of the installed products to meet the Performance and Design Criteria.
- B. Store in temperature ranges of 25 - 90 degrees F.

1.6 WARRANTY

- A. Installation Warranty: Contractor shall correct defective Work within a 2 year period after Date of Substantial Completion.
- B. Manufacturer Warranty: Provide 5 year warranty for tactile warning surfacing for failing to maintain more than 95% of their surface installation/adhesion, color retention or non skid characteristics.
 - 1. Exception: Where such failures are the result of vehicular traffic, shopping cart trucks or tractors, blade or rotary snow removal or other mechanically abrasive devices.
 - 2. Exception: Where surface coloring agents or sealers have been applied to concrete substrate.

PART 2 - PRODUCTS

2.1 DESCRIPTION

- A. Tactile warning surfacing and non skid coatings for pedestrian traffic.

2.2 PERFORMANCE AND DESIGN CRITERIA

- A. ATBCB PROWAG - Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way; 2011.
- B. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines.



- C. 49 CFR 27, 37, and 38 - Standards for Accessible Transportation Facilities, Final Rule; Department of Transportation; current edition.
- D. ADAAG requirements (Title 49, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 - Detectable warnings on walking surfaces)

2.3 MANUFACTURERS

- A. Specification is based on products listed by Vanguard ADA Systems: www.VanguardOnline.com.
 - 1. Substitutions for products by manufacturers other than those listed above: See Section 016000 - Product Requirements.

2.4 DETECTABLE WARNING

- A. Truncated Domes:
 - 1. Basis of Design Product: Detectable Warning (Truncated Dome) by Vanguard ADA Systems. Comparable and substituted products will be judged based on the following performance criteria, features, warranty, and qualifications.
 - 2. Performance Criteria:
 - a. Substrate Requirements:
 - 1) Portland Cement:
 - a) Strength: 3,000 PSI minimum.
 - b) Finish: medium broom finish or coarser profile.
 - c) Cure: 20 day minimum.
 - 2) Asphalt:
 - a) Compaction: 95% minimum.
 - b) Finish: Rolled, compacted, smooth.
 - c) Cure: 20 day minimum.
 - b. Skid Resistance: 0.80 minimum in accordance with ASTM F1679.
 - c. UV Resistance: 99% minimum Fade Resistance and Color Retention in accordance with ASTM G155.
 - d. Chemical Resistance: Tested for 7 days.
 - 1) Road Salts: no effect.
 - 2) Anti-freeze: no effect.
 - 3) Diesel fuel: no effect.
 - 4) Gasoline: no effect.



- 5) Transmission fluid: no effect.
- 6) Motor oil: no effect.
- e. VOC: 25 g/l maximum. Tested in accordance with ASTM D2205.
- f. Water Absorption: Maximum 0.5%. Tested in accordance with ASTM D570.
- g. Smoke Development: Pass. Tested in accordance with EN ISO 9239-1.
- h. Flame Spread: Less than 150 mm. Tested in accordance with EN ISO 11925-2.
- i. Shore Hardness: Shore Durometer, A-1, 80 minimum after 24 hours. Tested in accordance with ASTM D2240.
- j. Tracking: None. Tested for 32 minutes maximum in accordance with ASTM D711.
- k. Viscosity: 6000-12000 cps ASTM D2196 - Brookfield #7 spindle @20 rpm, 77 degF
- l. Color: White, Red, Blue, Black, Yellow, Green.
- m. Seamless installation.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify surface is free of surface applied sealers, coloring agents, or other materials detrimental to surface bond.
- B. Verify existing conditions meet manufacturer's requirements before starting work.
- C. Verify surface temperature is between 35 degrees F and 88 degrees F.

3.2 PREPARATION

- A. Prepare surfaces to receive work in accordance with manufacturer's instructions.
- B. Grind to remove surface applied sealers, coloring agents, or other surface applied materials and provide required surface profile.
- C. Broom or air sweep clean surfaces free of debris, vegetation and material impacting adhesion.
- D. Provide completely dry surface.



3.3 INSTALLATION

- A. General: Install all materials in accordance with manufacturer's instructions based on conditions present.
- B. Truncated Domes:
 - 1. Mask work area.
 - 2. Reducer:
 - a. Mix and catalyze Reducer component in accordance with installation instructions.
 - b. Install Reducer component. Cross roll at 90 degrees to ensure appropriate coverage and penetration.
 - c. Wait minimum 30 minutes for Reducer component to cure.
 - 3. Base/Non skid:
 - a. Mix and catalyze base component in approved color(s) in accordance with installation instructions.
 - b. Fill all surface deformities with manufacture's recommended materials.
 - c. Install Base component and cross roll at 90 degrees to ensure adequate coverage and penetration.
 - d. Remove masking immediately upon completion.
 - e. Wait minimum 45 minutes for base component to cure.
 - 4. Domes:
 - a. Layout dome forms in accordance with contract documents and dimensional allowances.
 - b. Mix and catalyze base component in approved color(s) in accordance with installation instructions.
 - c. Pour catalyzed base component onto mats in coverage rates indicated by manufacturer.
 - d. Squeegee material to ensure adequate coverage and penetration of all apertures.
 - e. Remove excess material
 - f. Remove forms immediately in accordance with manufacturer's instructions.
 - g. Wait minimum 60 minutes for final component to cure.
 - h. When material is tack free, surface is ready for pedestrian traffic.

3.4 CLEANING

- A. Clean as needed with very light pressure wash without the use of soaps, abrasives or rotary tip.
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3.5 PROTECTION

- A. Protect installed work areas required by the manufacturer until work is complete to maintain product performance, design criteria and warranty.

3.6 SCHEDULE

A. Curb Cuts.

1. Features:

- a. Product: Truncated Domes.
- b. Color: _____.
- c. Detail: as indicated on sheet _____.

2. Locations:

- a. As indicated on drawings.

END OF SECTION

