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**DMS - 4350**  
**DETECTABLE WARNING MATERIAL**

**EFFECTIVE DATE: JUNE 2012**

**4350.1. Description.** This Specification governs for the evaluation and qualification of detectable warning materials.

**4350.2. Units of Measurements.** The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.

**4350.3. Definitions.** Detectable warnings are a distinctive surface pattern of truncated domes that are detectable by cane or underfoot and are used to alert people with vision impairments of their approach to streets and other hazardous areas. Detectable warning products comply with the 2010 ADA Standards for Accessible Design, Section 705, published by the U.S. Department of Justice on September 15, 2010, and the 2012 Texas Accessibility Standards (TAS), Section 705, published by the Texas Department of Licensing and Regulation effective March 15, 2012.

- Surface applied detectable warning materials are those materials or systems affixed to an existing substrate without demolition. Methods of adherence include chemical bonding, adhesives, mechanical fasteners, or other methods.
- Cast-in-place detectable warning systems include those materials or systems that are “wet set” into freshly poured concrete while it is still in the plastic state and require existing ramps to be demolished and re-poured for installation.
- Unit paver detectable warning systems include concrete and fired clay pavers that fit together to form a detectable warning surface.

**4350.4. Material Producer List.** The Plan Development Section of the Design Division maintains a Material Producer List (MPL) of all detectable warning materials. Materials appearing on the MPL, entitled “[Detectable Warning Material](#),” require product evaluation prior to listing.

**4350.5. Pre-Qualification Procedure for Surface Applied and Cast-in-Place Detectable Warning Systems.**

- A. Pre-Qualification Request.** Submit a letter of intent and a 6 × 6 in. product sample to the Texas Department of Transportation, Design Division, Director of Plan Development, 125 East 11th Street, Austin, Texas 78701-2483.
- B. Pre-Qualification Sample.** Install a representative sample of material at a test location approved by the Department. Department personnel will monitor and evaluate the test site for at least six months and will grant approval after successful completion of the testing period.

**C. Installation Requirements.** Manufacturers and suppliers must act in accordance with the following guidelines when installing material at the test location.

- Secure an approved location and date for product installation from the Department's Design Division.
- Protect adjacent property and vehicles from damage. If any damage results from an act or omission on the part of the material supplier or contractor, notify the Campus Building Manager immediately. Prepare to take corrective action to restore the damaged property to its original condition.
- Install detectable warning material or system at a minimum of 24 in. in the direction of travel and extending the full width of the curb ramp. Normally, a 24 × 48 in. installation is required.
- Follow Department [Pedestrian Facilities Standards](#) (PED) for installation.
- For cast-in-place systems, the material supplier or contractor may be required to saw cut and remove existing concrete ramps or detectable warnings.
- Protect product from damage until materials are fully set or cured.

**D. Evaluation.** Department personnel will conduct evaluations six months after installation, at which time the team will determine whether the product is performing at an acceptable level.

**1. Qualification.** Department personnel will evaluate the installation according to the following criteria:

- Product meets the requirements listed under Article 4350.7 of this Specification.
- At least 19 of 20 domes must meet size requirements.
- Domes and field area must show little to no surface wear at six months and little wear at one year, if applicable.
- Product must have a visually appealing appearance at six months.
- Product must be free of bubbles/lifting, cracks, chipped tiles, loose areas, and other non-desirable performance features and maintenance problems.

The Department will list materials meeting the requirements of this Specification on the MPL.

**2. Failure.** Producers not qualified under this Specification may not furnish materials for Department projects and must show evidence of correction of all deficiencies before reconsideration for qualification.

**E. Disqualification.** The Department reserves the right to reevaluate the initial material installation and any subsequent installations in the field to ensure a continued level of acceptable performance. Failure of materials to comply with the requirements of this Specification as a result of periodic evaluation may be cause for removal of those materials from the MPL

**F. Re-Qualification.** A manufacturer or supplier may submit material for re-qualification after documenting the problem and its resolution. Submit documentation identifying the

cause and corrective action taken. If the Department deems the documentation acceptable, the product will be reevaluated in accordance with Article 4650.5 of this Specification.

#### **4350.6. Pre-Qualification Procedure for Unit Pavers.**

- A. Pre-Qualification Request.** Submit a letter of intent to the Texas Department of Transportation, Design Division, Director of Plan Development, 125 East 11th Street, Austin, Texas 78701-2483. Include with the request certified test results showing that the pavers meet the requirements of Article 4350.7.
- B. Evaluation.** Department personnel will evaluate the data provided by the manufacturer or supplier and determine if the material meets the requirements of this Specification.
- 1. Qualification.** The Department will list materials meeting the requirements of this Specification on the MPL.
  - 2. Failure.** Producers not qualified under this Specification may not furnish materials for Department projects and must show evidence of correction of all deficiencies before reconsideration for qualification.
- C. Disqualification.** The Department reserves the right to evaluate any field installations to ensure a continued level of acceptable performance. Failure of materials to comply with the requirements of this Specification as a result of periodic evaluation may be cause for removal of those materials from the MPL.
- D. Re-Qualification.** A manufacturer or supplier may submit material for re-qualification after documenting the problem and its resolution. Submit documentation identifying the cause and corrective action taken. If the Department deems the documentation acceptable, the product will be reevaluated in accordance with Article 4350.6 of this Specification.

#### **4350.7. Material Requirements.** All detectable warning products must meet the following:

- Product must be compliant with 2010 ADA Standards for Accessible Design and the 2012 TAS.
- Visual Contrast must meet the requirements of 2010 ADA Standards for Accessible Design, Section 705.1.3, and the 2012 TAS.

In addition to the above, concrete pavers must meet all requirements of ASTM C 936, and clay fired pavers must meet all requirements in ASTM C 902 for Class SX, Type I, or ASTM C 1272.

#### **4350.8. Archived Versions.** Archived versions are available.