

NJDOT moves toward ADA compliance with curb ramp surface system tests

Edited by Larry Flynn

With the introduction of the American Disabilities Act (ADA) in 1991, and subsequent rulings since then, several issues have emerged that now face the nation's DOTs and local municipalities. These issues are related to the treatment of curb ramp surfaces which lead from pedestrian walking areas into vehicular trafficked areas and are concerned with the safety of blind and vision-impaired individuals.

The ADA mandate for curb ramps contains two basic requirements:

- A truncated dome detectable warning system, and
- A light-on-dark or dark-on-light slip-resistant surface.

The **New Jersey Department of Transportation** (NJDOT) conducted field testing on a number of different detectable warning systems, including **Safti-Trax**, which was developed and manufactured by **COTE-L Industries, Inc.**, in New Jersey. The test variables included the degree of detectability by blind and visually impaired subjects, the effect of adverse weather conditions on domed surface, and the ease of application.



Field testing of the truncated dome product was completed by the New Jersey DOT in 1994.

Results showed that the company's product performed in a superior manner. In its assessment of the system at the time the field testing was completed in February 1994, NJDOT had found no other truncated dome product as resilient and as easy to customize and install to each location.

The product is an applied detectable warning system with two components:

- **Durabak**, a non-slip flexible polyurethane coating containing a recycled rubber crumb aggregate, and
- Truncated rubber domes which are lightly attached to 2 ft x 4 ft plastic sheets with a mild adhesive.

The coating comes in various colors, including black, gray, red, green, blue, light grey, light blue, light brown, safety yellow, safety orange, and white. It bonds to itself and is thus easily repairable. The resiliency of the domes, together with that of the polyurethane coating, combine to produce an overall resiliency that is designed to make it "easier on the feet and easier to detect."

In the field test conducted by NJDOT, the product was installed in two separate locations. To install the system, the surface of the concrete ramp was first thoroughly cleaned. Then, an initial coating of polyurethane coating was applied, using a special stipple roller. Next, the plastic sheet with the domes attached were laid in place, with the bottom of the domes resting in the wet coating. After the surface had set (within a few hours), the plastic sheet was peeled off, leaving the domes attached to the coating. The domes were then sealed in permanently with three additional coats of polyurethane coating.

The initial American with Disabilities Act ruling called for a detectable warning system of truncated domes in a specified matrix to be installed on curb ramps leading from pedestrian walking areas into vehicular trafficked areas. Some of the inherent problems that face the selection of an appropriate detectable warning system include: installation with the least obtrusive disturbance to the substrate; adaptability to surface irregularities; general ease of application; durability; and repairability.

NJDOT's field testing of the system was conducted over the harsh winter of 1994 and produced positive results. The DOT found that the system answered each of the above concerns.

The system as an applied product, can be retrofit over fully-cured concrete or other surfaces.