

On April 12, 1994, the Access Board published a joint final rule with the Departments of Justice (DOJ) and Transportation (DOT) to suspend temporarily--until July 26, 1996--requirements for detectable warnings at curb ramps, hazardous vehicular areas, and reflecting pools.

This action does not affect the ADAAG requirement for detectable warnings at transit platforms, which remains in effect.

The landmark Americans with Disabilities Act (ADA), enacted on July 26, 1990, provides comprehensive civil rights protections to individuals with disabilities in the areas of employment (title I), State and local government services (title II), public accommodation and commercial facilities (title III), and telecommunications (title IV). Both the Department of Justice and the Department of Transportation, in adopting standards for new construction and alterations of places of public accommodation and commercial facilities covered by title III and public transportation facilities covered by title II of the ADA, have issued implementing rules that incorporate the Americans with Disabilities Act Accessibility Guidelines (ADAAG), developed by the Access Board.

U.S. Architectural and Transportation Barriers Compliance Board

BULLETIN #1: DETECTABLE WARNINGS

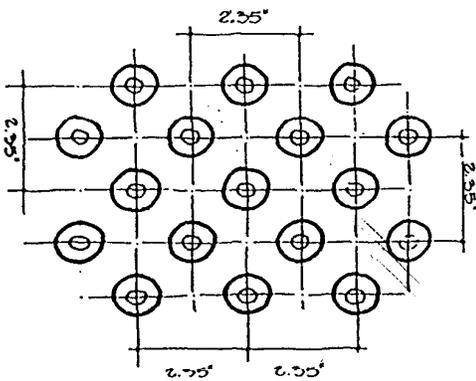
ADAAG 3.3 Definitions.

Detectable Warning.

A standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired people of hazards on a circulation path.

4.1.3 (15) New Construction.

Detectable warnings shall be provided at locations as specified in 4.29.



PLAN of TRUNCATED DOMES
(not to scale)

Why were detectable warnings developed?

A detectable warning is a standardized surface that incorporates small truncated domes at closely-spaced intervals (see Plan and Section illustrations). The use of distinctively-textured paving patterns as signaling and wayfinding devices for the foot or cane of pedestrians who have vision impairments was pioneered in Japan in the mid-1960s. Today, curb ramps and grade-level crossings at intersections in many Japanese cities are marked by installations of bright yellow tiles with an alternating pattern of raised truncated domes. Similar wayfinding tiles with raised ridges mark routes and stopping points along sidewalks and in transit stations to assist travellers who are blind or who have low vision.

Persons with little or no usable vision depend upon environmental cues--ambient sounds, edges and other physical elements that can be sensed by a cane, and texture changes underfoot--for safe and independent travel. People with low vision can also use color contrast as a navigation aid.

When raised curbs do not mark and separate the pedestrian route on a sidewalk from the vehicular way, as at curb ramps, vehicle drop-offs, or depressed corners at intersections, it is difficult for some pedestrians to discern the boundary between pedestrian safety and hazard.

Several research projects tested textured walking surfaces in the United States in the 1980s. One study compared the detectability of the truncated dome pattern with other textured surfaces. Several pilot installations of raised-pattern tiles in a strip along the edge of a transit platform tested their utility, maneuverability, and safety on level surfaces at drop-offs.

ADAAG 4.7.7 Detectable Warnings.

A curb ramp shall have a detectable warning complying with 4.29.2. The detectable warning shall extend the full width and depth of the curb ramp.

ADAAG 4.29.2 Detectable Warnings on Walking Surfaces.

Detectable warnings shall consist of truncated domes with a diameter of nominal 0.9 in (23 mm), a height of nominal 0.2 in (5 mm) and a center-to-center spacing of nominal 2.35 in (60 mm) and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light.

The material used to provide contrast shall be an integral part of the walking surface. Detectable warnings used on interior surfaces shall differ from adjoining walking surfaces in resiliency or sound-on-cane contact.

ADAAG 4.29.5 Detectable Warnings at Hazardous Vehicular Areas.

If a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings, or other elements between the pedestrian areas and vehicular areas, the boundary between the areas shall be defined by a continuous detectable warning which is 36 in (915 mm) wide, complying with 4.29.2.

ADAAG 4.29.6 Detectable Warnings at Reflecting Pools.

The edges of reflecting pools shall be protected by railings, walls, curbs or detectable warnings complying with 4.29.2.

Findings of the studies conducted prior to the publication of scoping requirements and technical specifications for detectable warnings in the *ADA Accessibility Guidelines* indicated that maximum effect was achieved:

- when the warning texture was unique, so that it would not be confused with other commonly-encountered surfaces in the environment;
- when its location adjoined or abutted the hazard, where it could signal an impending change, and
- when it extended beyond the average stride in length, so that it allowed the pedestrian to sense it physically, understand its meaning, and react appropriately before the hazard was encountered.

Additionally, a high visual contrast at pedestrian and vehicular hazards was recommended by these and other research studies. *ADAAG* scoping for detectable warnings and the technical specifications for the truncated domes they require were developed to alert pedestrians of an imminent hazard and were not intended for use as wayfinding devices.

Why have some applications of detectable warnings been temporarily suspended?

The Access Board, in response to business and user concerns about the need for and safety of truncated domes on curb ramps and at hazardous vehicular areas, has determined that additional research is needed to determine whether changes to *ADAAG* requirements for detectable warnings may be necessary. A research project involving a large number of test subjects has been initiated under Board sponsorship. It is anticipated that findings from this and other research will assist the Access Board in determining both the need for and usability of current technical specifications for detectable warnings, particularly those applied to sloping surfaces at curb ramps, and to complete rulemaking in this area prior to the July 26, 1996 expiration date of the temporary suspension.

What scoping requirements have been suspended?

ADAAG scoping at 4.1.3(15) requires that detectable warnings be provided "at locations specified in 4.29." The temporary suspension includes these locations:

- on curb ramps (*ADAAG* 4.7.7);
- at hazardous vehicular areas (*ADAAG* 4.29.5), and
- at reflecting pools (*ADAAG* 4.29.6).

Where must detectable warnings still be applied?

The technical provisions of *ADAAG* 4.29.2 remain in effect as the standard for detectable warnings at platform edges in transit stations, as required in *ADAAG* 10.3.1(8). Since much of the early research into detectable warnings was conducted where they were installed in rapid rail systems, abundant data exist on these applications.

ADAAG 10.3 Fixed Facilities and Stations.

10.3.1 New Construction.

[...]

(8) Platform edges bordering a drop-off and not protected by platform screens or guard rails shall have a detectable warning. Such detectable warnings shall comply with 4.29.2 and shall be 24 inches wide running the full length of the platform drop-off.

Platform edges in new and altered rapid, light, commuter, and intercity rail stations must have detectable warnings. Additionally, key rapid, light, and commuter rail stations and all intercity rail stations must install detectable warnings where platform edges are not otherwise protected by screens or guardrails.

The detectable warning must be placed at the platform edge and must extend the full length of the platform in a 24-inch width. The 24-inch requirement is an absolute dimension, not a minimum. Where a breakaway material is installed at the platform edge, the width of the detectable warning surface may begin at the edge of the breakaway material rather than at the edge of the platform. Since the sway--the "dynamic envelope"--of some commuter rail cars may overlap a platform edge, the area of the detectable warning installation should not be considered a safety zone but rather an indication of an adjacent drop-off or platform edge.

Interior applications require that the warning feature provide contrast in resilience or in sound when sensed by a cane. The domes and their matrix must also offer a strong visual contrast to adjacent pedestrian surfaces. Although ADAAG does not specify values for light-on-dark or dark-on-light contrast, a 70% figure is recommended in the Appendix.

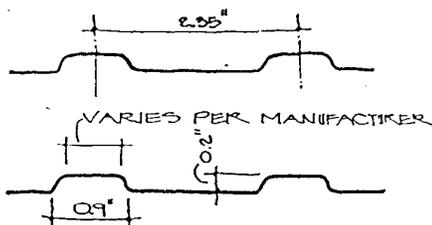
What is the new deadline for key station retrofits requiring detectable warnings under the DOT rule?

On November 30, 1993, the Department of Transportation amended its ADA regulation to extend the compliance date for retrofitting key rail stations with detectable warnings. The new deadline is July 26, 1994. For further information on this rulemaking, which also affects procedures for requesting equivalent facilitation under the DOT rule, contact DOT at (202)366-1656 (V) or (202)755-7687 (TTY).

Who makes detectable warnings?

The Access Board has been advised by the following manufacturers that their products meet the technical specifications for detectable warnings. All proposed materials should be carefully evaluated against ADA guidelines for application, design and installation. The Access Board does not review plans, products or materials for ADA compliance and thus cannot certify the suitability of such products or systems for the purposes intended.

The Department of Transportation regulations governing public transportation services and facilities establish a procedure through which an agency--or manufacturer--may apply for a determination of equivalent facilitation for a design or technology that represents a departure from ADAAG technical or scoping provisions. DOT has granted equivalent facilitation for some surface treatment specifications whose geometry, spacing, or profile differ from detectable warning provisions in ADAAG; products meeting these specifications have been listed in this Bulletin as well. For more information, contact DOT at (202)366-1656 (V) or (202)755-7687 (TTY).



SECTION thru TRUNCATED DOMES
(not to scale)

This listing is provided by the Access Board in the interests of information dissemination. The Access Board does not evaluate or certify products as complying with the requirements of any accessibility standard. Neither the Access Board nor the U.S. Government assumes liability for the contents of this list or its use, nor do they endorse manufacturers or their products. Trade or manufacturer's names appear herein solely because they are considered essential to the object of this Bulletin. This listing should not be construed as exhaustive or comprehensive, nor does inclusion on the list attest to the suitability of a specific product for a particular use. Readers are advised to obtain and review manufacturer's specifications, recommended applications, and installation instructions in order to evaluate each product for its intended use.

Applied Surfaces

Applied Surfaces, Incorporated
18 Overlook Avenue
Rochelle Park, NJ 07662
TEL: (201)836-5552 / FAX: (201)836-5552

Advantage Metal Systems
685 Oak Street, Suite 13-1
Brockton, MA 02401
TEL: (508)580-5177 / FAX: (508)587-9510

Bridgeco Products Division
Brio Industries Incorporated
302 Maro Road
Pasadena, MD 21122
TEL: (800)466-4884; (301)261-2166

COTE-L Enterprises, Incorporated
1542 Jefferson Street
Teaneck, NJ 07666
TEL: (201)836-9448 / FAX: (201)836-2290

COTE-L Midwest
211 East Ohio, Suite 513
Chicago, IL 60611
TEL: (312)321-9068

Gene Falco Tool Supply
88 Toledo Street
Farmingdale, NY 11735
TEL: (516)752-7550 / FAX: (516)752-7515

Increte Systems
8509 Sunstate Street
Tampa, FL 33634
TEL: (800)752-4626 / FAX: (813)886-0188

Nation Wide Products Company
P.O. Box 9031
Fort Worth, TX 76147-2031
TEL: (817)332-7217 / FAX: (817)335-1240

Rapidcrete Incorporated
P.O. Box 16
Syracuse, NY 13205
TEL: (800)446-5338; (315)457-5338 / FAX: (315)451-2290

Strongwall Industries, Inc.
P.O. Box 201
Ridgewood, NJ 07451
TEL: (201)445-4633 / FAX: (201)447-2317

Masonry Unit Pavers/Bricks

Hanover Architectural Products, Incorporated
240 Bender Road
Hanover, PA 17331
TEL: (717)637-0500 / FAX: (717)637-7145

Hastings Pavement Company, Incorporated
30 Commercial Street
Freeport, NY 11520
TEL: (516)379-3500 / FAX: (516)379-0570

Oldcastle, Inc.
5600 Glenridge Drive, Suite 260W
Atlanta, GA 30342
TEL: (404)851-9484 / FAX: (404)851-9390

Stepstone
17025 South Main Street
Gardena, CA 90248
TEL: (800)572-9029; (310)327-7474 / FAX: (310)327-0318
4902 West Superior, Phoenix, AZ 85043
770 26th Avenue, Santa Cruz, CA 95062 (408)476-3033

Superock Block Company
3301 27th Avenue North
P.O. Box 5326
Birmingham, AL 35207
TEL: (205)324-8624 / FAX: (205)324-8671

Whitacre-Greer Fireproofing Company
P.O. Box 460
Waynesburg, OH 44688-0460
TEL: (216)866-9331 / FAX: (216)866-4208

Metal Plate

Advantage Metal Systems
685 Oak Street, Suite 13-1
Brockton, MA 02401
TEL: (508)580-5177 / FAX: (508)587-9510

High Quality Tactile Systems
P.O. Box 585
Woburn, MA 01801
TEL: (617)935-8450 / FAX: (617)935-4958

Precast Curb Ramps

Steps Plus, Incorporated (NY sales only)
Kravec Drive
Syracuse, NY 13214
TEL: (315)446-8050 / (315)449-0271

Resilient Mats

ADA Consultants, Incorporated
P.O. Box 41029
Raleigh, NC 27629-1029
TEL: (919)872-4994 / FAX: (919)954-1015

Detectable Warning Systems, Division of Urethane Technologies, Inc.
1202 East Wakeham Avenue
Santa Ana, CA 92705-4145
TEL: (800)975-0810; (714)480-4006 / FAX: (714)543-3863

MCW Industries
East 12411 Empire Avenue
Spokane, WA 99216
TEL: (509)891-6342 / FAX: (509)927-1368

REHAU Incorporated
P.O. Box 1706 1501 Edwards Ferry Road
Leesburg, VA 22075
TEL: (703)777-5255 / FAX: (703)777-3053

Stamping/Imprinting Systems

Cobblecrete
205 West 2000 South
Madera, CA 93637
TEL: (800)798-5791; (801)224-6662 / FAX: (801)225-1690

CT Concrete Company
394 Whitehall Street
Allentown, PA 18104
TEL: (215)433-2757 / FAX: (215)433-3402

Increte Systems
8509 Sunstate Street
Tampa, FL 33634
TEL: (800)752-4626 / FAX: (813)886-0188

Specialty Concrete Products
P.O. Box 2922
West Columbia, SC 29171
TEL: (803)955-0707 / FAX: (803)955-0011

Stampcrete Decorative Concrete, Incorporated
127 Ball Circle
Syracuse, NY 13210
TEL: (315)451-2837 / FAX: (315)451-2290

Stamprite
1462 SW 12th Avenue
Pompano Beach, FL 33069
TEL: (305)946-6155 / FAX: (305)946-8049

Tiles

American Olean Tile Company
Lansdale, PA 19446-0271
TEL: (215)955-1111 / FAX: (215)362-6050

Bridgco Products Division/Brio Industries Incorporated
302 Maro Road
Pasadena, MD 21122
TEL: (800)466-4884; (301)261-2166

Carsonite International
1301 Hot Springs Road
Carson City, NV 89701
TEL: (800)648-7974 / FAX: (702)883-0525

Castek, Incorporated
20 Jones Street
New Rochelle, NY 10801
TEL: (800)321-7870; (914)636-1000 / FAX: (914)636-1282

Crossville Ceramics
Cumberland County Industrial Park
Crossville, TN 38555
TEL: (615)484-2110 / FAX: (615)484-8418

Dal-Tile Corporation
6760 Gravel Avenue
Alexandria, VA 22310
TEL: (703)971-8485 / FAX: (703)971-8604

Engineered Plastics, Incorporated
300 Pearl Street, #200
Buffalo, NY 14202
TEL: (800)682-2525; (716)842-6039 / FAX: (716)842-6049

High Quality Tactile Systems
P.O. Box 585
Woburn, MA 01801
TEL: (617)935-8450 / FAX: (617)935-4958

Project Design USA, Incorporated
1950 Old Covington Road
Conyers, GA 30208
TEL: (404)388-0552 / FAX: (404)388-0527

Safety Services, Incorporated
1543 Del Plaza No. 3
Baton Rouge, LA 70815
TEL: (504)924-0010 / FAX: (504)928-3447

Summitville Tiles, Incorporated
Summitville, OH 43962
TEL: (216)223-1511 / FAX: (216)223-1414

Terra Clay Products, Incorporated
926 26th Street
West Palm Beach, FL 33407
TEL: (407)655-3988 / FAX: (407)833-4629

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