



# Guide for Recommended Uses of Photoluminescent (Phosphorescent) Safety Markings<sup>1</sup>

This standard is issued under the fixed designation E 2030; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This guide describes recommended uses and information on installation of photoluminescent safety markings to supplement emergency lighting. This guide does not establish a standard practice to follow.

1.2 The values stated in SI units are the standard. The values given in parentheses are for information purposes only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

- 2.1 *ASTM Standards:*  
E 284 Terminology of Appearance<sup>2</sup>

## 3. Terminology

3.1 Definitions of terms in Terminology E 284 are applicable to this guide.

## 4. Significance and Use

4.1 Photoluminescent safety markings may be used to supplement mandatory emergency lighting but cannot be used to replace such. The applications listed shall be used as guidelines only. There may be other national, federal or local safety regulations. It is the obligation of the user to follow these.

4.2 Photoluminescent safety markings can be divided into the following categories:

4.2.1 *Floor Mounted Markings*—These markings include floor tiles, stair treads, stair nosings, floor inserts, tactile warning strips, coatings, epoxy casting resins, and other markings attached to the floor.

4.2.2 *Wall Mounted Markings*—These markings include coatings, wall bases, tapes, corner guards, signage, escape route plans, guidance strips, and other markings attached to walls, doors, handrails, columns, and other obstructions.

## 5. Recommended Applications

5.1 *Marking and Outlining*—This provides a continuous delineation of the escape route from the occupied area to the safe area, except as interrupted by intersecting corridors or non-exit doors. Markings should be at least 100-mm (4-in.) wide in all locations and should be applied to the floor surface or should be installed on the wall within 200 mm (8 in.) of the floor (see Figs. 1-3).

5.2 *Continuous Wall- and Floor Markings in Corridors*—Corridors 2 meters (2.2 yd) or wider should be marked on both sides. In dead end corridors only, the direction of travel should be indicated by directional indicators pointing in the direction of the means of egress. The maximum spacing between the individual directional markers should be 1 meter (1.1 yd).

5.3 *Marking of Exit Doors and Emergency Exits*—Exit doors and emergency exits in the course of the egress path should be marked with an exit path marker on or next to the door. Such doors should also either be marked all around by highlighting their entire frames or by leading the pathway marking up to the level of the door handle on the side of the door where the handle is located (see Figs. 1-3). If the frame is outlined to aid in locating the door release, its knob/latch should be marked by placing photoluminescent material behind it or by making the release itself visible (see Figs. 2 and 3).

5.3.1 Non-exit doors inside of escape stairs that do not allow re-entry to the main building should be marked by photoluminescent material connecting the wall markings at the same height (see Figs. 2 and 3).

5.4 *Marking of Stairs and Ramps*—Photoluminescent markings on stairs, ramps, and landings should clearly indicate their beginning, course, and end. Markings should be applied to the tread, the landing, and, where present, to the side(s) of the stairs (see Figs. 2 and 3).

5.4.1 *Stair Treads and Risers* should be marked in one of three ways as shown in Figs. 2 and 3.

<sup>1</sup> This guide is under the jurisdiction of ASTM Committee E12 on Color and Appearance and is the direct responsibility of Subcommittee E12.13 on Photoluminescent Safety Markings.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 06.01.

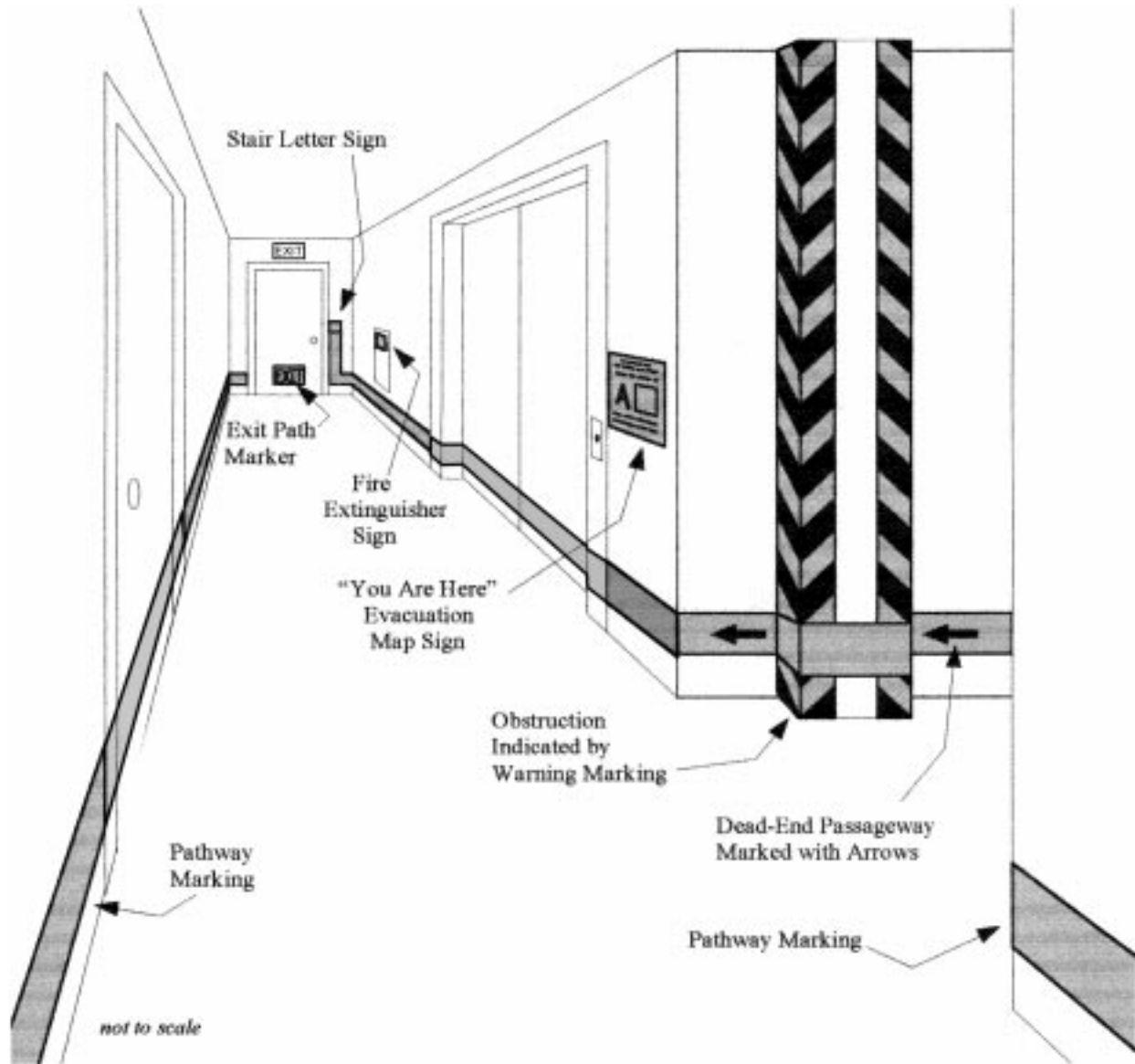


FIG. 1 Wall and Floor Markings in a Corridor

5.5 *Handrails* should be marked as part of the exit guidance process. The marking may be on the handrail or applied to the wall (see Figs. 2 and 3).

5.6 *Obstacles, Protrusions and Other Hazards* should be identified with photoluminescent warning markings to be clearly visible in a blackout condition (see Fig. 1).

5.7 *Fire Fighting Equipment* should be marked by a sign (for example fire station) or by placing photoluminescent material behind it (for example a fire extinguisher) to aid in finding such equipment in darkness situations (see Figs. 1-3).

5.8 *Escape Route Plans* should be provided on each floor, located next to the elevators, if present, or by the main stair(s), if no elevators are present (see Figs. 1 and 4). The plan should measure at least 250 mm by 300 mm (10 in. by 12 in.).

5.9 At any *Exit Door* leading to a stair, a sign should be provided that identifies the stair (see Figs. 1 and 5). The sign should measure at least 100 mm by 150 mm (4 in. by 6 in.).

5.10 In *Stairs*, a sign should be provided on each floor landing that identifies the stair, the floor, and whether re-entry into the building is acceptable (see Fig. 2, Fig. 3 and Fig. 6). The sign should measure at least 225 mm by 250 mm (9-in. by 10-in.).

## 6. Keywords

6.1 low location lighting; photoluminescent safety markings; supplemental emergency lighting

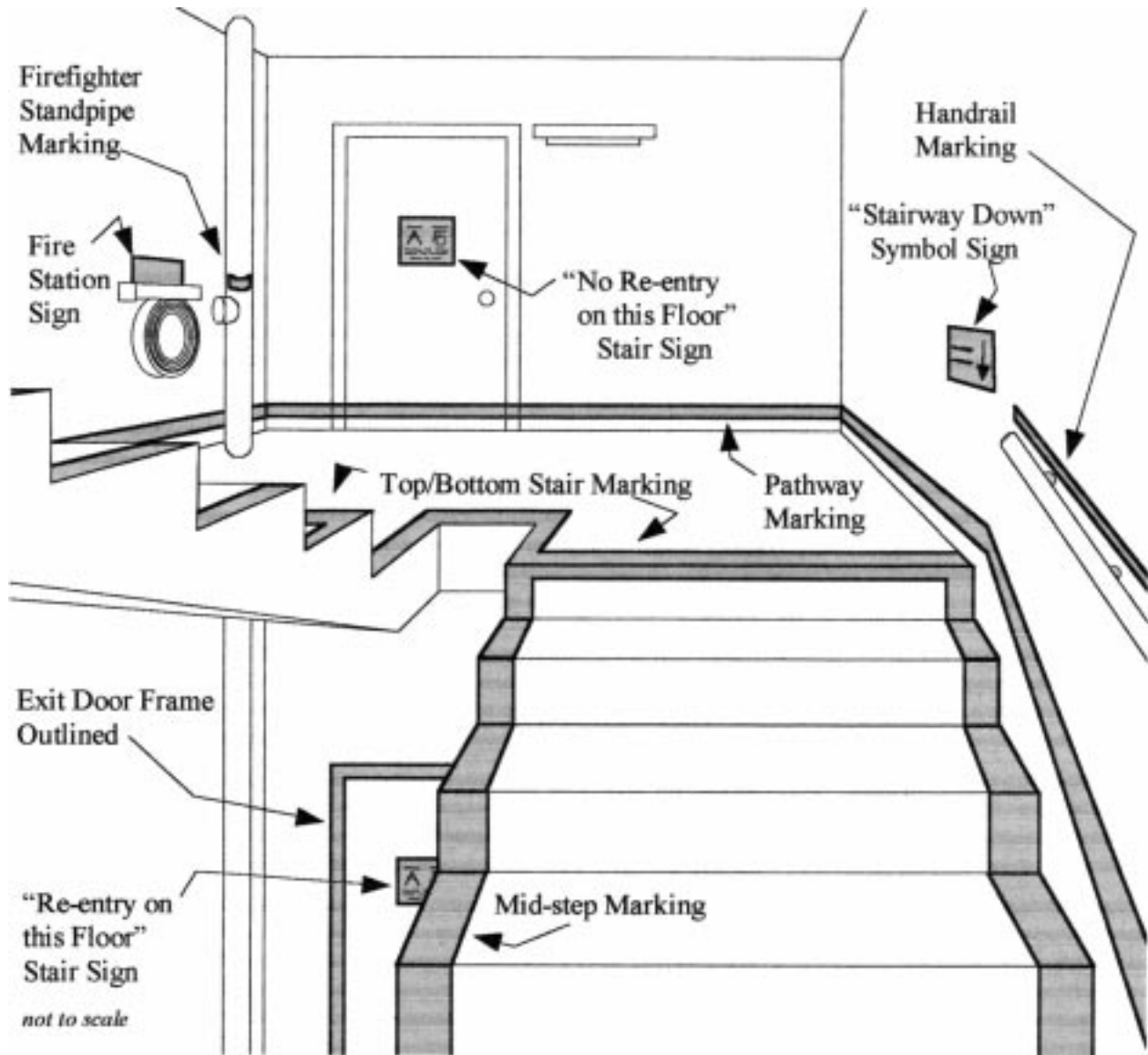


FIG. 2 Wall and Floor Markings in an Escape Staircase

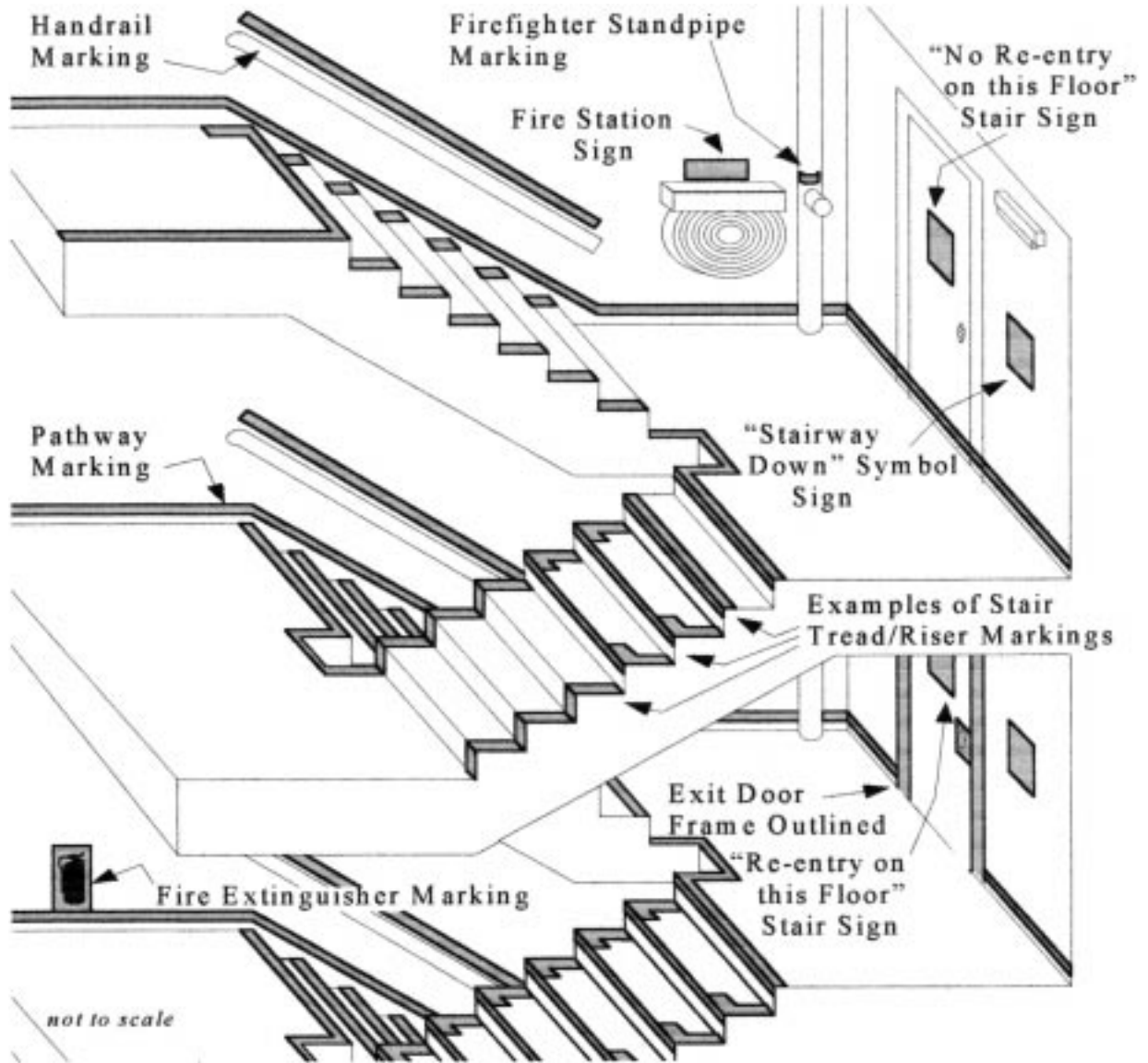


FIG. 3 Various Stair Markings in an Escape Staircase

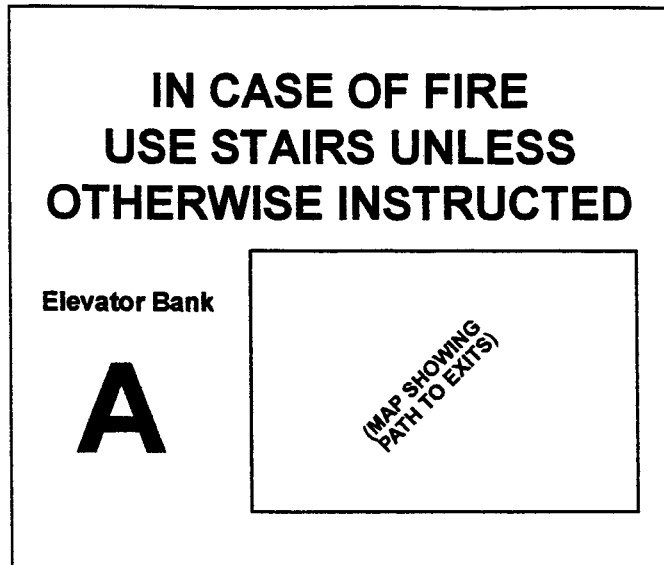


FIG. 4 Escape Route Plan

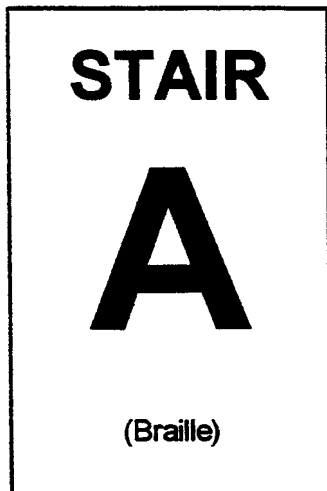


FIG. 5 Identification Sign for Stairs



FIG. 6 Reentry Sign

APPENDIX

(Nonmandatory Information)

X1. RELATED INFORMATION

X1.1 Further information on photoluminescent markings can be found in the following materials:

DIN 67510 Parts 1-4, Beuth Verlag GmbH, 10772 Berlin, Germany.

IMO Resolution A.752(18), available from International Maritime Organization, Publications Section, 4 Albert Embankment, London SE1 7SR, England.

JIS-K5120 and JIS-Z9107, available from Japanese Standards Association, 1- 24, Akasaka 4, Minato-ku, Tokyo 107, Japan.

MSC62/QP.17, Maritime Safety Committee of IMO.

PSPA Standard 002 Part 2, 1993, PSPA, United Kingdom.

UL 924 AND UL 1994 (Underwriters Laboratories standards, available from Global Engineering Documents, Boulder, Colorado).

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