



Luminous Egress Path Marking Systems

What code authorities should know

Recent editions of building and life safety codes include new requirements for egress path marking systems. Code authorities and designers often have questions about what these Listed systems are, and what is needed to achieve a safe, code-compliant installation.



Egress path marking systems include floor proximity and other egress path marking and lighting systems that provide a visual delineation of the path of egress. These systems are also used to identify significant egress path features such as doors, door hardware, door frames, stairs, stair landings, stair banisters, obstacles, egress symbols, information placards and similar elements of the egress path. They are intended to be used in conjunction with exit signs to supplement — but not replace — required emergency lighting systems. In combination, these lighting and path marking systems allow occupants to more effectively use the means of egress system in an emergency.

Egress path marking systems are investigated in accordance with requirements in UL 1994, the Standard for Safety for Luminous Egress Path Marking Systems. This standard covers electrically powered systems, and non-electrical systems such

as photoluminescent materials. Photoluminescent materials supplied as paints, pigments or inks must be pre-applied by the manufacturer to a substrate such as a sheet or tape to eliminate performance variabilities due to application techniques.

UL 1994 requirements do not address the mounting integrity of path markers intended to be secured by adhesive to a building element. The suitability of this form of mounting needs to be determined in the actual installation. The Life Safety Code, NFPA 101, currently precludes the use of adhesive-backed tapes on stair nosings due to potential trip hazards introduced by such materials.

Required installations

Section 7.10.1.7 of the 2009 edition of NFPA 101 includes requirements for floor proximity egress path marking. Among other things, this section requires marking systems to be listed



Luminous Egress Path Marking Systems (continued)

in accordance with UL 1994. Section 1024 of the 2009 edition of the International Building Code includes similar requirements for these systems.

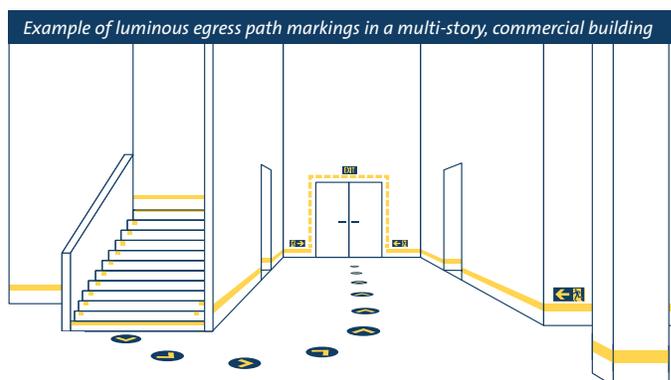
In general, egress path marking systems provide a visible delineation of the path of travel along the designated exit access and should be essentially continuous, except as interrupted by doorways, hallways, corridors or other such architectural features. These “stripes” should be installed in locations as specified in each code and should be visible whenever the building is occupied. Egress path marking systems may consist solely of visible strips, but may also include various information placards such as directional symbols and signs to provide additional guidance to occupants. Exit signs, which are required by other sections of the Life Safety Code and International Building Code, are Listed in accordance with UL 924, the Standard for Safety for Emergency Lighting and Power Equipment, and are not considered part of the path marking system covered by UL 1994.

Listed systems

These systems are Listed under the Luminous egress-path marking system product category (IMZI) found in the Online Certifications Directory at www.ul.com/database. This category covers floor-proximity and other egress-path marking and lighting systems intended to visually identify the path of egress and significant egress-path features such as doors, stair banisters, obstacles or information placards.

Path-marking systems listed as being suitable for installation on a floor have been subjected to commercial cleaning operations representative of those specified in the manufacturer’s instructions. Path-marking system components listed as being suitable for installation on a stair nosing have also been subjected to a slip-resistance investigation.

Photoluminescent products may include paints or pigments factory pre-applied to substrates, plastic sheets or adhesive-backed flexible tapes for field application in accordance with the manufacturer’s instructions. They require exposure to light for activation of their luminescent properties, and their instructions identify the minimum amount and type of illumination to achieve their fully intended functionality.



Electrically-powered systems are intended to be connected to — or are supplied with — an emergency power source capable of providing at least 90 minutes of operation.

Instructions and markings

Instructions are required to be furnished with each system and accessory, or with each bulk shipment provided to an installer. They illustrate proper placement of the system with respect to mounting locations, space between luminous segments, changes in direction, doorways, etc. However, specific details on placement locations should be determined by the applicable building or life safety code requirements.

Path markers investigated for use on stair nosings are marked, where visible during installation, “Suitable for Stair Nosings”, or equivalent.

The Listing Mark for these products includes the UL symbol, the word “LISTED,” a control number, and “Luminous egress path-marking system” or “Luminous egress-path marker.”

Illumination requirements

Photoluminescent egress path marking systems, i.e., “glow in the dark materials,” require an illumination source to provide the anticipated visibility. This illumination source need not be part of the facility’s emergency lighting system, but it must be active at all times of building occupancy and may not be controlled by timers or sensors that could leave the path marking system without an activation source for lengthy periods of time.



Luminous Egress Path Marking Systems (continued)

They must demonstrate adequate performance 90 minutes after being subjected to only 1 foot-candle of illumination for no more than 60 minutes. Instructions provided with each photoluminescent egress path marking system include:

- The minimum amount and type of ambient illumination necessary for the photoluminescent system to function as intended
- An instruction that the control of the ambient illumination be restricted to authorized personnel
- A warning against the use of the system where the ambient illumination level is less than the minimum specified value.

Photoluminescent egress path systems are intended for installation where the facility illumination is sufficient to activate the photoluminescent material.