

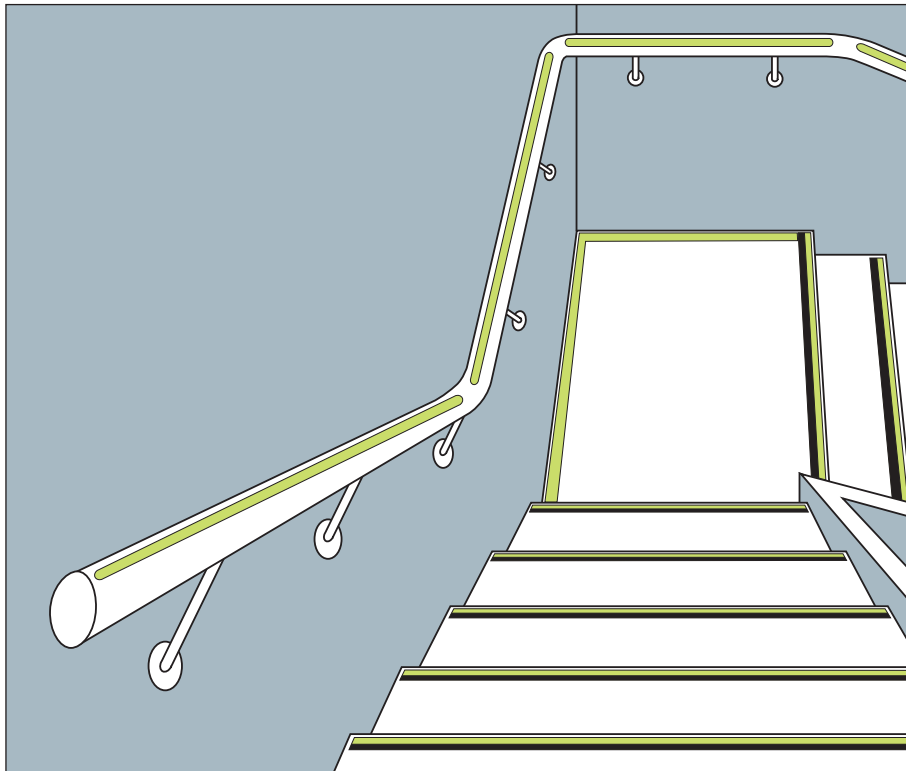
ECOGLO INTERNATIONAL LIMITED

Compliance Guide

for Ecoglo Photoluminescent Markings to meet the requirements of

2021 IFC/IBC SECTION 1025 LUMINOUS EGRESS PATH MARKINGS

N.B. For Performance Solutions to meet primary lighting and exit signage requirements, please consult Ecoglo.



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Introduction

This document is aimed at those wishing to design an IFC/IBC compliant photoluminescent path marking system and outlines:

- Where Ecoglo egress path marking systems are required;
- Which Ecoglo markings should be used and where they should be installed;
- What ongoing inspections should be carried out.

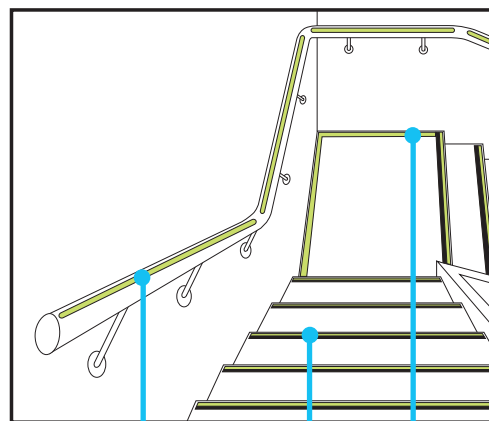
Ecoglo photoluminescent products are aluminium based and manufactured to a very high standard. To ensure suitable durability Ecoglo's proprietary manufacturing process involves integrally bonding the active ingredients into aluminium using Heat Temperature Curing (HTC) technology. Ecoglo's product range includes step edge contrast, guidance strips, handrail markers, door markers, as well as exit signage. Please note that for Ecoglo markings to be appropriate there needs to be sufficient charging light on the markings as specified in 1025.5 (see p.4).

1025.1 General

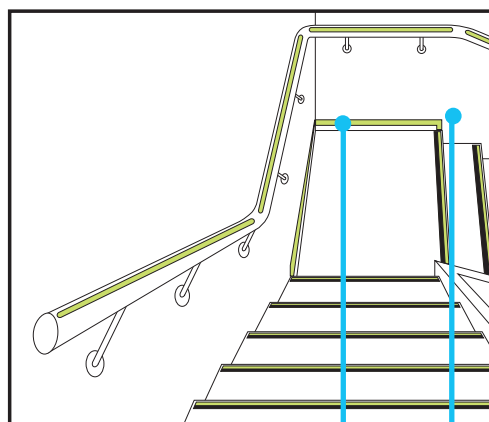
Where approved luminous egress path markings delineating the exit path are required in high-rise buildings of Group A, B, E, I-1, M and

R-1 occupancies, this guide details how Ecoglo photoluminescent markings shall be installed in accordance with Sections 1025.1 through 1025.5.

Exception: Luminous egress path markings shall not be required on the level of exit discharge in lobbies that serve as part of the exit path in accordance with Section 1028.1, Exception 1.



HANDRAIL MARKING
STEP MARKINGS
FLOOR MOUNTED PERIMETER DEMARCATION LINE



WALL MOUNTED PERIMETER DEMARCATION LINE
DROPS TO LEADING EDGE OF LANDING

1025.2 Markings within Exit Components

Egress path markings shall be provided in interior exit stairways, interior exit ramps and exit passageways, in accordance with Sections 1025.2.1 through 1025.2.6.3

1025.2.1 Steps

A solid and continuous stripe shall be applied to the horizontal leading edge of each step and shall extend for the full length of the step. Outlining stripes shall have a minimum horizontal width of 1 inch (25 mm) and a maximum width of 2 inches (51 mm). The leading edge of the stripe shall be placed not more than ½ inch (12.7 mm) from the leading edge of the step and the stripe shall not overlap the leading edge of the step by more than ½ inch (12.7 mm) down the vertical face of the step.

EXCEPTION: All outlining stripes listed in accordance with UL 1994 meet IFC requirements and are NOT REQUIRED to have a minimum horizontal width of 1 inch (25mm).

1025.2.1 Steps
<p>Recommended Ecoglo Products</p> <p>E14-075 Step Edge Contrast E2-071 Step Edge Contrast E15-073 Step Edge Contrast F14-175 Step Nosing F15-175 Step Nosing F14-173 Step Nosing F15-173 Step Nosing F2-003 Step Nosing G6-003 Guidance Strip</p>

1025.2.2 Landings

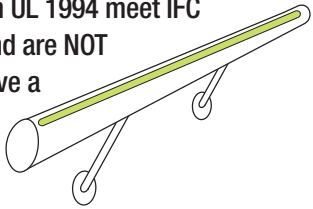
The leading edge of landings shall be marked with a stripe consistent with the dimensional requirements for steps.

1025.2.2 Landings
<p>Recommended Ecoglo products</p> <p>E14-075 Step Edge Contrast E2-071 Step Edge Contrast E15-073 Step Edge Contrast F14-175 Step Nosing F15-175 Step Nosing F14-173 Step Nosing F15-173 Step Nosing F2-003 Step Nosing G6-003 Guidance Strip</p>

1025.2.3 Handrails

Handrails and handrail extensions shall be marked with a solid and continuous stripe having a minimum width of 1 inch (25 mm). The stripe shall be placed on the top surface of the handrail for the entire length of the handrail, including extensions and newel post caps. Where handrails or handrail extensions bend or turn corners, the stripe shall not have a gap of more than 4 inches (102 mm).

EXCEPTION: All outlining stripes listed in accordance with UL 1994 meet IFC requirements and are NOT REQUIRED to have a minimum horizontal width of 1 inch (25mm).



1025.2.3 Handrails
<p>Recommended Ecoglo Products</p> <p>H3-001 Handrail Marker H5-001 Handrail Marker G3-001 Guidance Strip G6-003 Guidance Strip</p>

1025.2.4 Perimeter Demarcation Lines

Stair landings and other floor areas within interior exit stairways, interior exit ramps and exit passageways, with the exception of the sides of steps, shall be provided with solid and continuous demarcation lines on the floor or on the walls or a combination of both. The stripes shall be 1 to 2 inches (25 mm to 51 mm) wide with interruptions not exceeding 4 inches (102 mm).

EXCEPTION: All outlining stripes listed in accordance with UL 1994 meet IFC requirements and are NOT REQUIRED to have a minimum horizontal width of 1 inch (25mm).

1025.2.4.1 Floor-Mounted Demarcation Lines

Perimeter demarcation lines shall be placed within 4 inches (102 mm) of the wall and shall extend to within 2 inches (51 mm) of the markings on the leading edge of landings. The demarcation lines shall continue across the floor in front of all doors.

Exception: Demarcation lines shall not extend in front of exit discharge doors that lead out of an exit and through which occupants must travel to complete the exit path.

1025.2.4.2 Wall-Mounted Demarcation Lines

Perimeter demarcation lines shall be placed on the wall with the bottom edge of the stripe not more than 4 inches (102 mm) above the finished floor. At the top or bottom of the stairs, demarcation lines shall drop vertically to the floor within 2 inches (51 mm) of the step or landing edge. Demarcation lines on walls shall transition vertically to the floor and then extend across the floor where a line on the floor is the only practical method of outlining the path. Where the wall line is broken by a door, demarcation lines on walls shall continue across the face of the door or transition to the floor and extend across the floor in front of such door.

Exception: Demarcation lines shall not extend in front of exit discharge doors that lead out of an exit and through which occupants must travel to complete the exit path.

1025.2.4.3 Transition

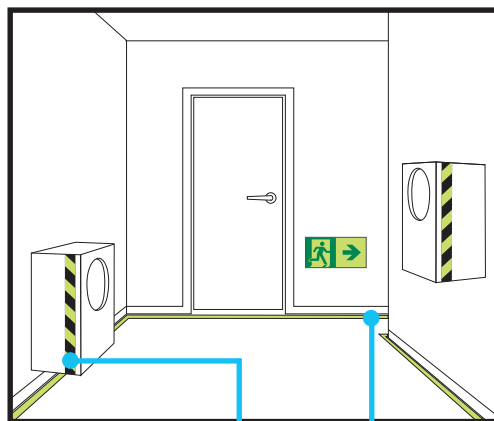
Where a wall-mounted demarcation line transitions to a floor-mounted demarcation line, or vice versa, the wall-mounted demarcation line shall drop vertically to the floor to meet a complementary extension of the floor-mounted demarcation line, thus forming a continuous marking.

1025.2.4 Perimeter Demarcation Lines
Recommended Ecoglo Products G3-001 Guidance Strip G6-003 Guidance Strip

1025.2.5 Obstacles

Obstacles at or below 6 feet 6 inches (1981 mm) in height and projecting more than 4 inches (102 mm) into the egress path shall be outlined with markings not less than 1 inch (25 mm) in width comprised of a pattern of alternating equal bands, of luminous material and black, with the alternating bands not more than 2 inches (51 mm) thick and angled at 45 degrees (0.79 rad). Obstacles shall include, but are not limited to, standpipes, hose cabinets, wall projections and restricted height areas. However, such markings shall not conceal any required information or indicators including, but not limited to, instructions to occupants for the use of standpipes.

1025.2.5 Obstacles
Recommended Products UL-HZ2518 Photoluminescent Hazard Tape <i>N.B. The above product is not heat cured or aluminium based.</i>



MARKING OF OBSTACLES
FLOOR OR WALL MOUNTED DEMARCATION LINES

1025.2.6 Doors within the Exit Path

Doors through which occupants must pass in order to complete the exit path shall be provided with markings complying with Sections 1025.2.6.1 through 1025.2.6.3.

1025.2.6.1 Emergency Exit Symbol

The doors shall be identified by a low-location luminous emergency exit symbol complying with NFPA 170. The exit symbol shall be not less than 4 inches (102 mm) in height and shall be mounted on the door, centered horizontally, with the top of the symbol not higher than 18 inches (457 mm) above the finished floor.

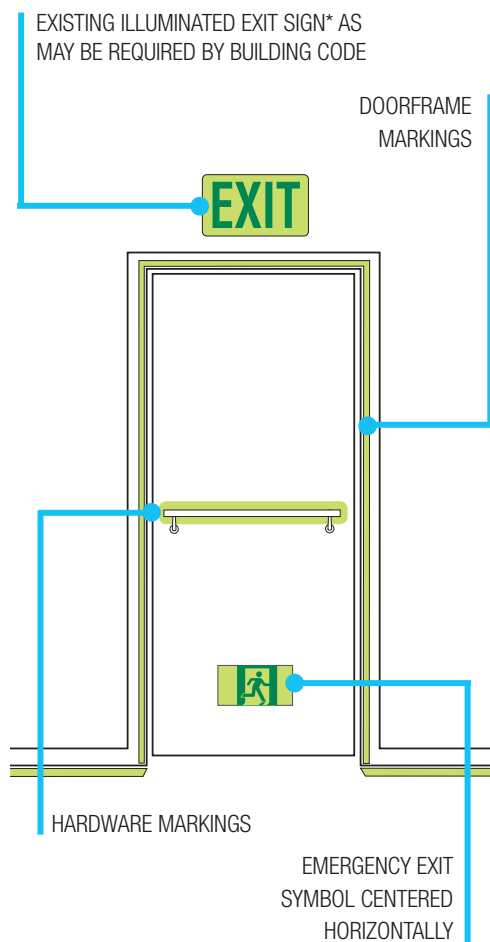


1025.2.6.1 Emergency Exit Symbol
Recommended Ecoglo Products S5-RM2010 Pictogram S5-RML2010 Pictogram Left S5-RMR2010 Pictogram Right S5-RMUA2010 Pictogram Up Arrow S5-RMDA2010 Pictogram Down Arrow S5-RMUL2010 Pictogram Up Left Arrow S5-RMDL2010 Pictogram Down Left Arrow S5-RMUR2010 Pictogram Up Right Arrow S5-RMDR2010 Pictogram Down Right Arrow

1025.2.6.2 Door Hardware Markings

Door hardware shall be marked with no less than 16 square inches of luminous material. This marking shall be located behind, immediately adjacent to or on the door handle or escutcheon. Where a panic bar is installed, such material shall be not less than 1 inch (25 mm) wide for the entire length of the actuating bar or touchpad.

1025.2.6.2 Door Hardware Markings
Recommended Ecoglo Products G6-003 Guidance Strip DHM1010 Door Handle Marker
Recommended Product UL-DHM3840 Door Push Bar Marker <i>N.B. The above product is not heat cured or aluminium based.</i>



1025.2.6.3 Door Frame Markings

The top and sides of the door frame shall be marked with a solid and continuous 1 inch to 2 inch (25 mm to 51 mm) wide stripe. Where the door molding does not provide sufficient flat surface on which to locate the stripe, the stripe shall be permitted to be located on the wall surrounding the frame.

1025.2.6.3 Door Frame Markings

Recommended Ecoglo Products
G6-003 Guidance Strip

1025.3 Uniformity

Placement and dimensions of markings shall be consistent and uniform throughout the same exit enclosure.

* While EXIT signs are not specified in this section of the code, Ecoglo make exit signs that are UL 924 listed (and therefore comply with IFC/IBC Section 1013 Exit Signs). Ecoglo can also make exit signs to meet regional/international text or graphics requirements.

1025.4 Self-Luminous and Photoluminescent

Photoluminescent material is suitable for luminous egress path markings provided that it also complies with either of the following standards:

1. UL 1994; or
2. ASTM E 2072, except that the charging source shall be 1 footcandle (11 lux) of fluorescent illumination for 60 minutes, and the minimum luminance shall be 30 millicandelas per square meter at 10 minutes and 5 millicandelas per square meter after 90 minutes.

1025.4 Self-Luminous and Photoluminescent

Recommended Ecoglo Products
All components UL 1994 listed

1025.5 Illumination

Where photoluminescent exit path markings are installed, they shall be provided with a minimum of one footcandle (11lux) of illumination for at least 60 minutes prior to periods when the building is occupied and continuously during the building occupancy.

To ensure suitable durability specify products which are heat cured and aluminium based. All recommended Ecoglo products (which includes Step Edge Contrast, Guidance Strips, Handrail Markers, Door Markers and Exit Signage) are heat cured and aluminium based.

Specification Note

Recommended Ecoglo Products
Heat cured
Aluminium based

Ongoing Inspections

The following inspections are recommended to ensure ongoing compliance with 2021 IFC/IBC Section 1025 Luminous Egress Path Markings

Action	Complete
There has been no change in the configuration of the building which renders the marked escape routes unusable.	
All products are still configured as at installation and there is no material damage to any of these products.	
All products are clean from general dust build up and any other specific obscuring deposits.	
All products are clearly visible and have not been covered up by carpet or other materials.	
All products mark a clear path and have not been obstructed by physical hazards such as trolleys, machinery, partitions, etc.	
All lights checked that the positions have not altered from design.	
All lights are in working order and clean.	
All automated lighting control systems are operational as per design.	

The above checks should be carried out regularly and at least once every 12 months to ensure reliability of the system in the case of fire or other emergency. Any repairs or replacements required should be carried out immediately. A log of all inspections including results and any corrective measures taken should be recorded and kept on the premises for inspection by the building management and fire department. The log should contain the inspection dates and printed name and signature of the person performing the inspection.

In situations where signs and markings are likely to become dirty, it is recommended that frequent checks and cleaning are done.

Compliance Quick Reference

2021 IFC/IBC Section 1025 Luminous Egress Path Markings

1025.2.1 Steps

- E14-075 Step Edge Contrast
- E2-071 Step Edge Contrast
- E15-073 Step Edge Contrast
- F14-175 Step Nosing
- F15-175 Step Nosing
- F14-173 Step Nosing
- F15-173 Step Nosing
- F2-003 Step Nosing
- G6-003 Guidance Strip

1025.2.2 Landings

- E14-075 Step Edge Contrast
- E2-071 Step Edge Contrast
- E15-073 Step Edge Contrast
- F14-175 Step Nosing
- F15-175 Step Nosing
- F14-173 Step Nosing
- F15-173 Step Nosing
- F2-003 Step Nosing
- G6-003 Guidance Strip

1025.2.3 Handrails

- H3-001 Handrail Marker
- H5-001 Handrail Marker
- G3-001 Guidance Strip
- G6-003 Guidance Strip

1025.2.4 Perimeter Demarcation Lines

- G3-001 Guidance Strip
- G6-003 Guidance Strip

1025.2.5 Obstacles

- UL-HZ2518 Photoluminescent Hazard Tape

1025.2.6.1 Emergency Exit Symbol

- S5-RM2010 Pictogram
- S5-RML2010 Pictogram Left
- S5-RMR2010 Pictogram Right
- S5-RMUA2010 Pictogram Up Arrow
- S5-RMDA2010 Pictogram Down Arrow
- S5-RMUL2010 Pictogram Up Left Arrow
- S5-RMDL2010 Pictogram Down Left Arrow
- S5-RMUR2010 Pictogram Up Right Arrow
- S5-RMDR2010 Pictogram Down Right Arrow

1025.2.6.2 Door Hardware Markings

- G6-003 Guidance Strip
- DHM1010 Door Handle Marker
- UL-DHM3840 Door Push Bar Marker

1025.2.6.3 Door Frame Markings

- G6-003 Guidance Strip

1025.4 Self-Luminous and Photoluminescent

- All components UL 1994 listed