ecoglo®
VISIBLY BETTER

Section 10 14 43

Ecoglo® Photoluminescent Egress Path Markings

This specification has been numbered, organized and formatted in accordance with the MasterFormat, Section Format and Page Format documents published jointly by Construction Specifications Institute (CSI). For convenience, all products are contained within Section 10 14 43 (Photoluminescent Egress Path Markings) but if desired may be edited/adapted to suit any other Section(s) of Work in accordance with project requirements.

It is offered as a guide to experienced and knowledgeable construction professionals who assume full responsibility for its interpretation and use. Square brackets [ ] containing text indicate an option to be considered/inserted by the specifier. Remove brackets and unused options before printing.

This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by one of the following methods:

- Microsoft Word 2007: Click the OFFICE button, select WORD OPTIONS, select DISPLAY, and then select or deselect the HIDDEN TEXT option.
- Microsoft Word (earlier versions): From the pull-down menus select TOOLS, then OPTIONS. Under the tab labeled VIEW, select or deselect the HIDDEN TEXT option.
- Corel WordPerfect: From the pull-down menus select VIEW, then select or deselect the HIDDEN TEXT option.

Section 10 14 43

Photoluminescent Egress Path Markings

Part 1 General

1.1 Summary

A Work Included: Furnishing and installation of complete Luminous Egress Path Markings of the following types:

1. Step Edges
    a. Contrast Strips
    b. Flat Stair Nosings
    c. Cast-in-Place Stair Nosings
    d. Carpet Stair Nosings
    e. Tile Nosings
    f. Resilient Flooring Nosings
2. Handrail Markings
3. Perimeter Demarcation
4. Obstacle Markings
5. Floor Identification Signs
6. Egress Signage
7. Door Hardware Markings
8. Evacuation Signage

1.2 Related Sections:

A Division 01: Administrative, procedural, and temporary work requirements.

B Section 26 52 13 - Photoluminescent Exit Signs.

C Section 05 55 00 – Photoluminescent (Metal) Stair Treads and Nosings

1.3 Design Requirements

A Photoluminescent Exit Path Marking System shall be a complete system of low level egress markings in compliance with the requirements of the local building code and fire code.

B Photoluminescent step edge marking products shall provide step edge color contrast and slip resistance.

1 Photoluminescent material shall be recessed within powder coated aluminum ridges which provide slip resistance and protect the photoluminescent material.

2 Photoluminescent material utilized in step edge markings shall not have an abrasive texture that collects dirt and results in lower photoluminescent performance.

3 Step edge products shall include an integrally bonded silicon carbide abrasive non-slip component that provides color contrast.

4 Step edge products shall be made of aluminum base material. Flexible tape products and vinyl materials are not acceptable.

C Photoluminescent egress markings shall be 1 inch wide, or UL 1994 listed.

D Stairwell Floor Identification Signage in high rise buildings requiring photoluminescent egress markings are required to be made of photoluminescent material and must meet the following requirements:

1 Signs shall be a minimum size of 18” x 12 inches
2 Include the Identification of Stair
3 Roof Access Yes/No
4 Floor Number
5 Braille Floor Number (by an approved Braille provider)
6 Termination top/Bottom of stair
7 Story and direction of exit discharge

1.4 References

A [National Fire Protection Association (NFPA) 101 - Life Safety Code]
[International Building Code / International Fire Code (IBC/IFC) section 1025]

B [New York City LL 141 Photoluminescent Exit Path Markings section 1024]

C Underwriters Laboratories, Inc. (UL) UL 1994 Standard for Safety, Luminous Egress Path Marking Systems

D American Society for Testing & Materials (ASTM) ASTM E2072, Standard Specification for Photoluminescent (Phosphorescent) Safety Markings and E2073 – Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings

E United States Department of Justice (USDOJ) - ADA Standards for Accessible Design (SAD)

1.5 Quality Assurance

A Manufacturer Qualifications: to have minimum of 5 years experience with similar work.

B Installer Qualifications: to be manufacturer trained/authorized installer.

1.6 Submittals

A Submit the following [in accordance with Section 01 33 00 – Submittal Procedures]:

1 Product Data: Manufacturer’s product data sheets for materials used in system.
2 Shop Drawings: Provide drawings showing details, dimensions, extent of work, and other data necessary for the satisfactory installation of the products stated herein for compliance with the local building code requirements.
3 Samples: 12” size for review showing final color. Label samples with product codes and intended use.
4 Manufacturer’s Instructions: Pre-printed material describing installation of product, system or material, including special notices.

5 UL 1994 Test Reports: Showing compliance with UL 1994 standard for photoluminescent egress path marking.
6 Substitutions: Substitutions must be submitted and approved prior to bid date. All requests shall include test results, product descriptions, confirmation of piece design and engineering calculations meeting design criteria.
7 Certificate of Compliance: Demonstrate product compliance with reference standards.

Include the following for submission of sustainable design submittals.

B. Sustainable Design Submittals:
1. Regional Materials: Certify manufacturing location
2. Construction Waste Management Divert from Land Fill: Certify if products are made with materials that are recyclable
3. Recycled Content: Certify percent recycled content and designate whether pre-consumer or post-consumer
4. VOC content for installation adhesives
5. HTC: High Temperature Curing

1.7 Delivery, Storage and Handling
A Handle and store Products in a manner to prevent damage, deterioration and soiling to Products. Store products in cool, dry location and in original packaging.

1.8 Warranty
A Provide manufacturer's limited warranty. Warranty to cover defects in materials and workmanship.
1 Aluminum Base Products: (5) years from the date of Substantial Performance of the Work.
2 25 Year Warranty on photoluminescent performance

Part 2 Products

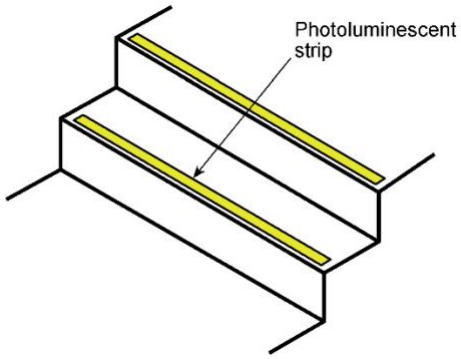
2.1 Manufacturers
A Contract Documents are based on products by Ecoglo Inc. (www.ecoglo.us)
B Substitutions: Not permitted
C Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements

2.2 Materials
A Aluminum Base Products:

1 Extruded Aluminum Nosings: 6060T5 extrusion anodized to Class 1, .0007” (20 microns) thickness.
2 Reflectance material: strontium aluminate-based photoluminescent pigment embedded in thermoset polyester carriers that integrally bond the active ingredients into powder coated aluminum substrates following curing at 350°F (180°C).
3 Materials shall be UL 1994 listed.
4 UV resistance of photoluminescent properties: Loss of luminance after 1000 hrs. as per ASTM G-155 Cycle 1 exposure: < 10%.
5 Materials shall show no detrimental effects after 2,000 hrs. when tested under ASTM G-155 – Accelerated Weathering
6 Non-slip surface: silicon carbide integrally bonded into powder-coated aluminum substrates following curing at 350°F (180°C).

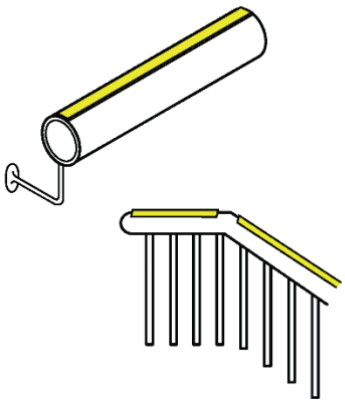
2.3 Components

A Step Edge Markings



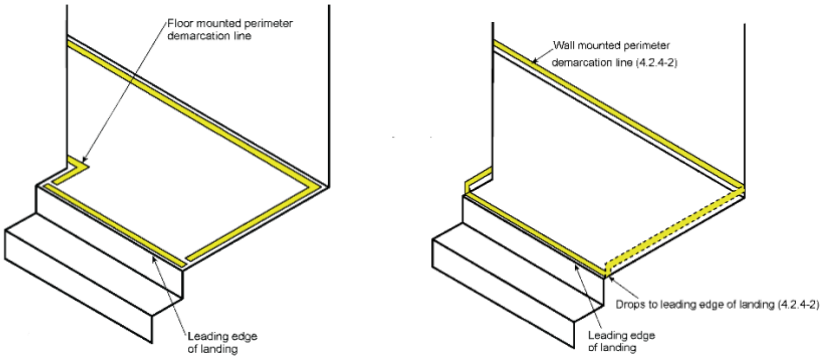
1 Step Edge Product Code: [E4073]
Description: [2” wide aluminum base step edge strip with 1” wide photoluminescent and 1” wide Black color contrasting Anti-slip.]
Color of Anti-Slip Area: [Black]

B Handrail Markings



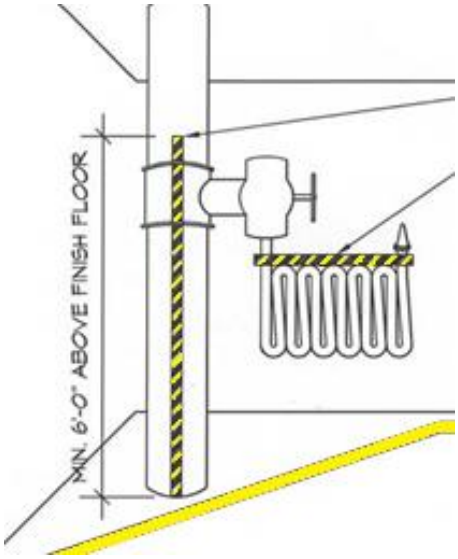
1 Handrail Markings Product Code: [H5001-10]
Description: strip: [*Curved powder coated extruded aluminum strip with photoluminescent pigment, recessed into protective channels, with 1” (25.5 mm) wide luminescent area, 0.06” (1.5 mm) thick. Install using premium polyurethane adhesive. Install HEC51 endcaps on open ends to eliminate any abrasive edges.]*

C Perimeter demarcation



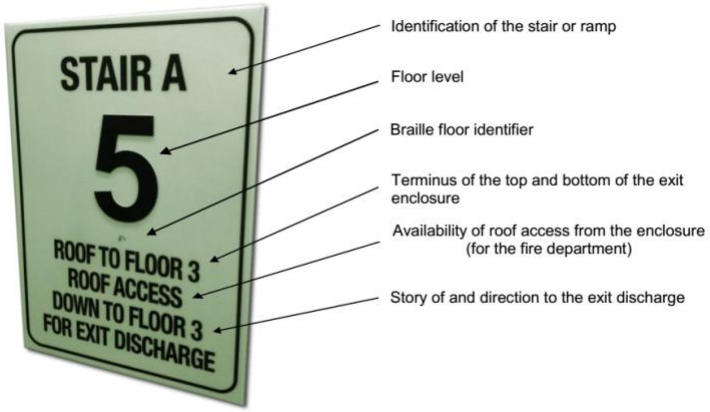
1 Perimeter Demarcation Product Code: [G5001-10]
Description: [Flat powder coated extruded aluminum strip with photoluminescent pigment, recessed into protective channels, with 1” (25.5 mm) wide luminescent area, 0.06” (1.5 mm) thick. Install using premium polyurethane adhesive.]

D Obstacle Marking



1 Obstacle Marking Product Code: [G250R-OB(-C)]
Description: [1" wide photoluminescent rigid vinyl strips with 45 degree angled black stripes (1" x 39"). Available in Flat (Model G250R-OB) and curved (G250R-OB-C)]

E Floor identification Signs



1 Floor Identification Signs Product Code: FID
Description: Photoluminescent Floor Identification Signs. 18" by 12" with Tactile raised Floor level numbers (ICC A117.1 compliant). Braille floor number. Signage shall state the story of, and the direction to, the exit discharge and the availability of roof access from the enclosure for the fire department.

F Photoluminescent Egress Signage
1 Model Series: [Aluminum Base Series]

Description: [Various photoluminescent directional egress signs. Aluminum base with green printed symbols. Install with premium polyurethane adhesive.]

G Door Hardware Markings

1 Door handle indicator 3.9” x 3.9” (100 mm x 100 mm). Basis of design: Ecoglo® DHM1010

2 Panic bar indicator 1” (25 mm) wide. Basis of design: Ecoglo® DHM03YY-G250R

Part 3 Execution

3.1 Examination

A Before installation, examine surfaces on which the work of this section depends. Notify [Contractor] if substrates do not comply with requirements of this section

B Ensure any painted surfaces are fully cured.

C Do not proceed with work of this Section until all unsatisfactory conditions have been corrected, if any.

D Commencement of Work will imply acceptance of surfaces.

3.2 Preparation

A Clean surfaces to remove dirt, dust, grease, oil, loose material, frost, paint, coatings, or other matter that may affect bonding or installation of photoluminescent products.

B Test substrates for fit with products before using adhesives or mechanical fastening.

3.3 Installation

A Install signs [as per Schedule attached at end of Section] [as indicated in Drawings] [positioned in accordance with
[National Fire Protection Association (NFPA) 101 - Life Safety Code]
[International Building Code / International Fire Code (IBC/IFC)]
[New York City RS6-1 and RS6-1A Photoluminescent Exit Path Markings]].

B Unless otherwise indicated in the specifications, install Products in accordance with manufacturer’s instructions. Obtain written instructions directly from manufacturer.

3.4 Cleaning

A Trim any excess adhesive with a sharp blade.

B At completion of installation, clean soiled Product surfaces in accordance with manufacturer’s instructions.

3.5 Waste Management and Disposal

A Separate waste materials for [reuse] [and] [recycling] at nearest used building materials facility.

B Divert unused caulking, sealants and adhesive materials from landfill through appropriate disposal procedure listed in material safety data sheets (MSDS).

3.6 Protection

A Allow 24 hours for adhesive cure with no foot traffic permitted.

B Protect areas from damage using barriers, markers or temporary signs as required.

C Do not allow heavy objects to come in contact with installed products.

End of Section