

Section 10 14 43

Photoluminescent Egress Path Markings

Part 1 General

- 1.1 Summary
 - A Work Included: Furnishing and installation of [step edge strips,] [stair nosings,] [guidance and handrail products,] [and] [signs and markers] over specified substrates.

- 1.2 References
 - A [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 UL 1994 Standard for Safety, Luminous Egress Path Marking Systems.
 - C ASTM E2072, Standard Specification for Photoluminescent (Phosphorescent) Safety Markings.

- 1.3 Quality Assurance
 - A Manufacturer Qualifications: to have minimum of 10 years experience with similar work.
 - B Installer Qualifications: to be manufacturer trained/authorized installer.

- 1.4 Submittals
 - A Submit the following [in accordance with Section 01 33 00 – Submittal Procedures]:
 - 1 Product Data: Manufacturer’s printed product literature for materials used in system.
 - 2 Shop Drawings: Provide CAD drawings showing details, dimensions, extent of work, and other data necessary for the satisfactory installation of the products stated herein.
 - 3 Samples: 6” (150 mm) size for review showing final color. Label samples with origin and intended use.
 - 4 Manufacturer’s Instructions: Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets outlining hazards and safety precautions.
 - 5 Test Reports: Showing compliance with required standards, ordinances and codes.
 - 6 Substitutions: Not permitted, however requests for substitutions will be considered provided substitute products and methods of execution are submitted at least 15 days prior to the bid closing date. All requests shall include test results, product descriptions, confirmation of piece design and engineering calculations meeting design criteria.

1.5 Delivery, Storage and Handling

- A Handle and store Products in a manner to prevent damage, deterioration and soiling to Products, other building components, assemblies, other Products, the structure, the Site and surrounding property and in accordance with manufacturer's instructions.
- B Store packaged or bundled Products in original and undamaged containers and packaging with manufacturer's seals and labels intact. Do not remove from packaging or containers until required in the Work.
- C Store products subject to damage from weather in weatherproof enclosures.

1.6 Warranty

- A Provide a written and signed Warranty in the name of the Owner for a period of five (5) years from the date of Substantial Performance of the Work.
- B Warranty to cover defects in materials and workmanship.

Part 2 Products

2.1 Manufacturers

- A Contract Documents are based on products by Ecoglo Inc.
- B Substitutions: [Under provisions of Division 01.] [Not permitted.]

2.2 Materials

- A Extruded Aluminum: 6060T5 extrusion anodized to Class 1, .0007" (20 microns) thickness.
- B 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).
 - 1 [Photoluminescent area luminance properties, from fully charged as per New York City RS6-1 brightness rating "BR 106/29/20":
 - For 4 hours after lights turned off > 15 mcd/m²
 - For 8 hours after lights turned off > 7 mcd/m²
 - For 110 hours after lights turned off > 0.3 mcd/m²][Materials shall comply with either UL 1994; or 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.]
 - 2 UV resistance of photoluminescent properties: Loss of luminance after 1000 hrs. as per ASTM G-155 Cycle 1 exposure: < 10%.
 - 3 Materials shall show no detrimental effects after 2,000 hrs. when tested under ASTM G-155 – Accelerated Weathering
- C 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 Strips

- 1 Contrast strips: powder coated extruded aluminum insert with strontium aluminate-based photoluminescent pigment recessed into protective channels [and silicon carbide non-slip material]. [1.5" (37.5 mm)] width, [black] non-slip material having [10%] anti-slip reflectance; with [0.6" (15 mm)] wide yellow-green luminescent area, 0.07" (1.8 mm) thick. Basis of design: Ecoglo [E20 Series Contrast Strips]

B Stair Nosings

- 1 [Flat] Stair nosings: anodized aluminum extrusion with replaceable insert adhesively fixed into extrusion; powder coated extruded aluminum insert with strontium aluminate-based photoluminescent pigment recessed into protective channels [and silicon carbide non-slip material]. Basis of design: Ecoglo [F4 Series Stair Nosings]

C Guidance and Handrail Products

- 1 Perimeter demarcation guidance strip: powder coated extruded aluminum insert with photoluminescent pigment, recessed into protective channels, with [1" (25.5 mm)] wide yellow-green luminescent area, 0.07" (1.8 mm) thick. Basis of design: Ecoglo [G6001 Guidance Strip]. [Insert adhesively fixed into extruded aluminum track.] [End caps at ends.]
- 2 Handrail strip: powder coated extruded aluminum insert with photoluminescent pigment, recessed into protective channels, with [1" (25.5 mm)] wide yellow-green luminescent area, 0.06" (1.5 mm) thick. Basis of design: Ecoglo [H5001 Handrail Strip]. [End caps at handrail strip ends.]

D Signs and Markers

- 1 Directional path marking signs (Basis of design: Ecoglo R Series Path Marking Signs):
 - a. Directional exit signs 8" x 4.6" (203 mm x 117 mm)
 - b. Door mounted exit door signs 13" x 4.6" (330 mm x 117 mm)
 - c. Wall mounted exit door signs and intermediate door signs 8.4" x 8.9" (213 mm x 226 mm)
 - d. FINAL EXIT signs 8.4" x 11.1" (213 mm x 282 mm)
- 2 Indicators:
 - a. NOT AN EXIT sign 7" x 2.1" (178 mm x 53 mm). Basis of design: Ecoglo 00N1854
 - b. Obstruction strip 1" (25.5 mm) wide with black diagonal stripes. Basis of design: Ecoglo OB20025
 - c. Door handle indicator 3.9" x 3.9" (100 mm x 100 mm). Basis of design: Ecoglo DHM1010

- d. Panic bar indicator 1" (25 mm) wide. Basis of design: Ecoglo DHM03YY
- 3 Floor identification signs:
 - a. Minimum size 18" by 12"
 - b. Tactile raised letters (ICC A117.1 compliant)
 - c. Braille beads
 - d. Self-adhesive-backed strips for mounting to wall substrate
 - e. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the enclosure for the fire department

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

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.

3.7 Products/Signage Schedule

Location	Product/Sign	Description
Steps and Landings	[Step edge strips] [Stair nosings]	Leading edge of each step and landing, solid and continuous.
Handrails	Handrail strip	Entire length of each handrail, located on top surface, solid and continuous. Maximum gap of 4" where handrails or handrail extensions bend or turn corners.
Stair landings and other floor areas	Guidance strip	Solid and continuous on floor or wall within exit enclosures, excluding sides of steps. Continuing across floor in front of all doors, with the exception of exit doors leading out of an exit enclosure and through which occupants must travel to complete the exit path.
Obstacles	Obstruction strip tape	Obstacles at or below 6' 6" (1980 mm) and projecting more than 4 inches into egress path.
Exit doors from within exit enclosures	Door/Wall mounted exit door signs	Centered horizontally on the door, with top of symbol maximum 18 inches (457 mm) above finished floor.
Exit doors from within exit enclosures	Door handle indicator	Behind door handle.
Exit doors from within exit enclosures	Panic bar indicator	On entire length of actuating bar or touchpad.
Exit doors from within exit enclosures	Guidance strip	On top and sides of door frame, or on wall surrounding frame if door molding surface does not provide sufficient flat surface, solid and continuous.

At each floor landing in exit enclosures	Floor identification sign	Located 5 feet above the floor landing in a position that is readily visible when the doors are in the open and closed position.
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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.

Ecoglo products are designed to provide path finding and emergency egress for building occupants of all abilities, and may be used to supplement electrical emergency lighting.

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.



4000 Airline Dr, Suite D Houston,
TX, 77022
Phone: +1-346-398-4400
Email: sales@delreypartners.com