

Section 10 14 43

Ecoglo Photoluminescent Emergency Visibility (including Outdoor Means of Egress)  
Specification for L Markers on Steps

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**Square brackets [ ] containing text indicate an option to be considered/inserted by the specifier. Remove brackets and unused options before printing.**

## Section 10 14 43

Photoluminescent Emergency Visibility (including Outdoor Means of Egress)  
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## Part 1 General

## 1.1 Summary

- A Work Included: Supply and installation of photoluminescent L markers to mark the sides of steps.

## 1.2 Design Requirements

- A This specification is intended to provide minimum requirements for photoluminescent L markers for steps that will aid in evacuation from buildings in the event of failure of both the power and back-up power to the lighting.
- B Photoluminescent L markers shall provide visibility of steps.
  - 1 Photoluminescent material in L markers shall be recessed within powder coated aluminium (aluminum) ridges which protect the photoluminescent material.
  - 2 Photoluminescent material utilized in L markers shall not have an abrasive texture that collects dirt and results in lower photoluminescent performance.
  - 3 Photoluminescent L markers shall be aluminium (aluminum) based and manufactured using High Temperature Curing (HTC) technology.
- C L markers shall meet the visibility requirements of UL 1994, OR New York Building Code Reference Standards RS 6-1 and RS 6-1A (2005).
- D Where photoluminescent L markers are installed, they shall be provided with not less than 54 lux of illumination for not less than 60 minutes prior to periods when the building is occupied, and continuously during the building occupancy.  
Where the means of egress extends outdoors, daylight will provide sufficient illumination to ensure the photoluminescent L markings remain sufficiently charged to operate throughout the night.

## 1.3 References

- A [Underwriters Laboratories, Inc. (UL) UL 1994 Standard for Safety, Luminous Egress Path Marking Systems.]  
[New York Building Code Reference Standards RS 6-1 and RS 6-1A (2005) – Photoluminescent Exit Path Markings.]

## 1.4 Quality Assurance

- A Manufacturer Qualifications: to have minimum of 25 years' experience with similar work.
- B Installer Qualifications: to be manufacturer trained/authorized installer.

## 1.5 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 Manufacturer's Instructions: Pre-printed material describing installation of product, system or material, including special notices, and maintenance and cleaning instructions.
- 4 Test Reports: Submit independent test reports to verify compliance with relevant standards as detailed in 2.2A(3) and 2.2A(4).
- 5 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.

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.
- 1.6 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 products subject to damage from weather in weatherproof enclosures.
- 1.7 Warranty
  - A Provide manufacturer's limited warranty. Warranty to cover defects in materials and workmanship.
    - 1 30 Year Warranty on photoluminescent performance of L markers when positioned indoors.
    - 2 15 Year Warranty on photoluminescent performance of L markers when positioned outdoors.

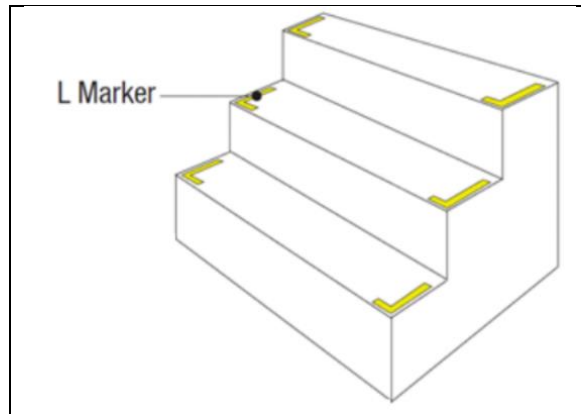
## Part 2 Products

- 2.1 Manufacturers
  - A Contract Documents are based on products by Ecoglo International Ltd. ([www.ecoglo.com](http://www.ecoglo.com))
  - B Substitutions: [Under provisions of Division 01.] Submit for consideration prior to bid closing.

## 2.2 Materials

- A High Temperature Curing (HTC) L Markers
- 1 Extruded 6063T5 Aluminium (Aluminum) Section
  - 2 Photoluminescent material: manufactured using HTC technology - strontium aluminate-based photoluminescent pigment embedded in thermoset polyester carriers that integrally bond the active ingredients into powder coated aluminium (aluminum) substrates following curing at 180°C.
  - 3 Materials shall meet the UL 1994 visibility test.
  - 4 All HTC L Markers to meet or exceed the performance criteria specified in the following tests or standards. PC = Performance Criteria
    - a. UV Resistance  
ASTM G155-04 Cycle 1 1000hrs, Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials. PC – Loss in luminance after exposure < 10%
    - b. Salt Spray Resistance  
ASTM B117-97, Standard Practice for Operating Salt Spray (Fog) Apparatus. PC – Slight corrosion build up along scribes, no blistering or filiform growth along scribes.
    - c. Washability  
ASTM D4828-94 (2003), Standard Test Methods for Practical Washability of Organic Coatings. PC – crayon, pen, 3M soil: all rating 10, being complete removal of soilant.
    - d. Rate of Burning  
ASTM D635-03, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position. PC – Time of burn 0 seconds, does not burn.
    - e. Surface Flammability  
ASTM E162-02, Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source. PC – Flame spread index 7.6, ignites with difficulty.
    - f. Toxicity  
Bombardier Toxic Gas Generation Test SMP800-C.  
PC – Pass.
    - g. Radioactivity  
ASTM D3648-2004, Standard Practices for the Measurement of Radioactivity. PC – Pass.
    - h. High Temperature Curing  
Independently tested by placing 3 samples in an oven at 150°C for 20 minutes and then examining the samples after removing from the oven. PC – the samples shall have no shrinkage, delamination, distortion, or yellowing.

2.3 Components  
A L Markers on Steps



- 1 L Marker Product Code: [S5-LM22080 L Marker]  
Description: [26mm wide aluminium (aluminum) base photoluminescent L shaped side of steps marker. Long edge is 216mm. Short edge is 77mm. Available in a pack containing 10 x left side L Markers and 10 x right side L Markers.]

[Click Here](#) to view *Ecoglo L Marker*

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

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 procedures.

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 into contact with installed products.

End of Section