

Section 10 45 00

Ecoglo Photoluminescent Disaster Preparedness Signs

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 45 00 (Photoluminescent Emergency Visibility) 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.

Section 10 45 00

Photoluminescent Disaster Preparedness Signs

Part 1 General

- 1.1 Summary
 - A Work Included: Supply and installation of photoluminescent disaster preparedness signs

- 1.3 Quality Assurance
 - A Manufacturer Qualifications: to have minimum of 20 years' experience with similar work.

- 1.4 Submittals
 - A Submit the following [in accordance with Section 01 33 00 – Submittal Procedures]:
 - 1 Product Data: Manufacturer's product data sheets for each sign used in project.
 - 2 Manufacturer's Instructions: Pre-printed material describing installation of product, including special notices, safety data sheets outlining hazards and safety precautions and maintenance and cleaning instructions.
 - 3 Test Reports: Showing compliance with required standards, ordinances and codes.
 - 4 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.

- 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 ready to be installed.
 - C Store products subject to damage from weather in weatherproof enclosures.

- 1.6 Warranty
 - A Provide manufacturer's limited warranty. Warranty to cover defects in materials and workmanship.
 - 1 High Temperature Curing (HTC) Products: (5) years from the date of delivery.
 - 2 15 Year Warranty on photoluminescent performance of HTC outdoor Signs (specially coated for outdoor conditions) when positioned outdoors.

Part 2 Products

2.1 Manufacturers

- A Contract Documents are based on products by Ecoglo International Ltd. (www.ecoglo.com)
- B Substitutions: [Under provisions of Division 01.] [Not permitted.]

2.2 Materials

- A Photoluminescent pigment embedded in thermoset polyester manufactured using a High Temperature Manufacturing (HTC) process at a temperature exceeding 160°C to integrally bond the active ingredients to 5005 0.9mm aluminium (aluminum) sheet.
- B All HTC disaster preparedness signs 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. Luminance
Independent luminance testing shall be undertaken as follows:
Excitation Condition (charging) – 20W Fluorescent lamp, 5000 lux for 60 minutes.
PC – Minimum luminance of: PC – Minimum luminance of:
4,900 mcd/m² after 2 minutes; and
950 mcd/m² after 10 minutes; and
250 mcd/m² after 30 minutes; and
120 mcd/m² after 60 minutes; and
10 mcd/m² after 480 minutes.
 - i. 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 Basis of design: Ecoglo Photoluminescent Disaster Preparedness

Signs

1 Description:

- a. Stores energy from ambient light
- b. Non-toxic, non-radioactive
- c. No electricity or batteries required

[Click here](#) to view Ecoglo Disaster Preparedness Signs

Product Code	Product Name	Sign Definition	Sign Size
S20-THZ315290	Tsunami Hazard Zone	Tsunami hazard zone	315mm x 290mm
S20-THZ588475	Tsunami Hazard Zone	Tsunami hazard zone	588mm x 475mm
S20-THZ950588	Tsunami Hazard Zone	Tsunami hazard zone	950mm x 588mm
S20-THZ1190980	Tsunami Hazard Zone	Tsunami hazard zone	1190mm x 980mm
S20-THZ2380980	Tsunami Hazard Zone	Tsunami hazard zone	2380mm x 980mm
S20-LS315290	Landslide Warning	Danger of landslides	315mm x 290mm
S20-LS588475	Landslide Warning	Danger of landslides	588mm x 475mm
S20-LS950588	Landslide Warning	Danger of landslides	950mm x 588mm
S20-LS1190980	Landslide Warning	Danger of landslides	1190mm x 980mm
S20-LS2380980	Landslide Warning	Danger of landslides	2380mm x 980mm
S20-TE315155	Tsunami Evacuate	Evacuate straight on from here	315mm x 155mm
S20-TEL315155	Tsunami Evacuate Left	Evacuate left from here	315mm x 155mm
S20-TER315155	Tsunami Evacuate Right	Evacuate right from here	315mm x 155mm
S20-EA315290	Evacuation Area	Evacuation area straight ahead	315mm x 290mm
S20-EA588475	Evacuation Area	Evacuation area straight ahead	588mm x 475mm
S20-EA950588	Evacuation Area	Evacuation area straight ahead	950mm x 588mm
S20-EA1190980	Evacuation Area	Evacuation area straight ahead	1190mm x 980mm
S20-EA2380980	Evacuation Area	Evacuation area straight ahead	2380mm x 980mm
S20-EAL315290	Evacuation Area Left	Evacuation area left from here	315mm x 290mm
S20-EAL588475	Evacuation Area Left	Evacuation area left from here	588mm x 475mm
S20-EAL950588	Evacuation Area Left	Evacuation area left from here	950mm x 588mm
S20-EAL1190980	Evacuation Area Left	Evacuation area left from here	1190mm x 980mm
S20-EAL2380980	Evacuation Area	Evacuation area	2380mm x 980mm

	Left	left from here	
S20-EAR315290	Evacuation Area Right	Evacuation area right from here	315mm x 290mm
S20-EAR588475	Evacuation Area Right	Evacuation area right from here	588mm x 475mm
S20-EAR950588	Evacuation Area Right	Evacuation area right from here	950mm x 588mm
S20-EAR1190980	Evacuation Area Right	Evacuation area right from here	1190mm x 980mm
S20-EAR2380980	Evacuation Area Right	Evacuation area right from here	2380mm x 980mm
S20-WDG	Water Depth Gauge	Not applicable	115mm x 1000mm

Note: Subject to minimum order quantities graphics can be customised for different provinces, regions or offices

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 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.

3.6 Protection

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

End of Section