Section 10 45 00

Ecoglo Photoluminescent Fire Protection Signs

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Section 10 45 00

Photoluminescent Fire Protection Signs

Part 1 General

1.1 Summary

A Work Included: Supply and installation of photoluminescent fire protection signs.

1.2 Quality Assurance

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

1.3 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, system or material, 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.

1.4 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.

1.5 Warranty

A Provide manufacturer's limited warranty. Warranty to cover defects in materials and workmanship.

1 High Temperature Curing (HTC) Products:
30 Year Warranty on photoluminescent performance of HTC signs when positioned indoors.

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 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) – 150W Xenon lamp, 1000 lux for 5 minutes. PC – Minimum luminance of:

- 2,000 mcd/m^2 after 2 minutes; and
- 400 mcd/m^2 after 10 minutes; and
- 100 mcd/m^2 after 30 minutes; and
- 50 mcd/m^2 after 60 minutes; and
- 20 mcd/m^2 after 120 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 Fire Protection Signs

1 Description:

a. Requires not less than 54 lux of illumination continuously during

building occupancy
b. Stores energy from ambient daylight, fluorescent, metal halide, mercury vapor or LED light
c. Non-toxic, non-radioactive
d. No electricity or batteries required
e. [Aluminium ceiling or flag mounting kit]

B Mounting type: [Ceiling] [Flag] [Surface]

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Product Code	Product Name	Sign Definition	Sign Size
S5-FEXT2010	Fire Extinguisher	Fire extinguisher located here	200mm x 100mm
BR5-DS-S5-FEXT2010	Fire Extinguisher Double Sided	Fire extinguisher located here	200mm x 100mm (each side)
S5-FH1010	Fire Hose	Fire hose located here	100mm x 100mm
S5-FA1010	Fire Alarm	Fire alarm located here	100mm x 100mm
S5-BG1010	Break Glass	In case of emergency break glass	100mm x 100mm
S5-FEGL2010	Break Glass	In case of emergency break glass	200mm x 100mm

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

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

End of Section