

## **ECOGLO PHOTOLUMINESCENT SIGNAGE MASTER SPECIFICATION (United States)**

- Step Edge Contrast Strips
- Stair Nosings
- Guidance & Handrail Strips
- Signs & Markers

*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) and Construction Specifications Canada (CSC). For convenience, all products are contained within Section 10 14 43 (Photoluminescent Signage) but if desired may be edited/adapted to suit any other Section(s) of Work in accordance with project requirements. e.g. Section 26 52 00 (Emergency Lighting) and Section 05 55 00 (Metal Stair Treads and Nosings).*

*It is offered as a guide to experienced and knowledgeable construction professionals who must assume full responsibility for its interpretation and use. Square brackets [ ] containing texts indicate an option to be considered/inserted by the specifier. Remove brackets and unused options before printing. Access Products Inc. is both a material supplier and installer.*

*Ecoglo products are designed to provide access, exit path marking and emergency egress for building occupants of all abilities. Emergency access products may be used either with or in lieu of electrical emergency lighting.*

### **Part 1 - General**

#### **1.01 SECTION INCLUDES**

- A. Furnishing and installation of [step edge contrast strips,] [stair nosings,] [guidance and handrail strips,] [and] [signs and markers] over specified substrates.

#### **1.02 REFERENCES**

- A. Conform to the following:
1. U.S. Department of Justice 28 CFR Part 36, ADA Standards for Accessible Design.
  2. ICC/ANSI A117.1 Accessible and Useable Buildings and Facilities.
  3. ICC/ICBO AC169 Acceptance Criteria for Photoluminescent Egress System Illumination.
  4. IBC 2007 Supplement: Section 1027 – Exit Path Markings.

5. New York City RS6-1 Photoluminescent Exit Path Markings.
6. New York City MEA acceptance report MEA 246-05-M.
7. UL924 - Exit Signs, Self-luminous and Photoluminescent.
8. UL1994 - Luminous Egress Path Marking Systems.
9. UL410, Standard for Slip Resistance for Floor Surface Materials.
10. ASTM E2072-04, Standard Specification for Photoluminescent (Phosphorescent) Safety Markings.
11. ASTM E2073-02, Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings.
12. DIN 67510 Part 1, Phosphorescent Pigments and Products: Measurement and identification by the manufacturer.
13. ISO 17398:2004 Clause 7.11, Safety Colours and Safety Signs-Classification, Performance and Durability of Safety Signs.
14. AS/NZS 4586-2004, Slip Resistance Classification of New Pedestrian Surface Materials.
15. ASTM D4828-94 (2003), Standard Test Methods for Practical Washability of Organic Coatings.
16. ASTM B136-84 (1998), Standard Test Method for Measurement of Stain Resistance of Anodic coatings on Aluminum.
17. ASTM D1242-95a, Standard Test Methods for Resistance of Plastic Materials to Abrasion.
18. ASTM B244-97, Test Methods for Measurement of Anodic Coatings on Aluminum and other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy-Current Instruments.
19. ASTM B137-95 (2000), Test Method for Measurement of Coating Mass per Unit Area of Anodically Coated Aluminum.
20. ASTM F510-93 (2004), Standard Test Method for Resistance to Abrasion of Resilient Floor Coverings Using an Abrader with a Grit Feed Method.
21. JIS H8682-1: 1999, Test methods for abrasion resistance of anodic oxide coatings on aluminum and aluminum alloys –Wheel wear test.
22. ASTM G155-04 Cycle 1 2000 hrs., Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials.
23. ASTM E162-02, Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source.
24. ASTM D635-03, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
25. FAA AC 23.2 Paragraph 4.b, Horizontal Burn Test.
26. ASTM D3648-2004, Standard Practices for the Measurement of Radioactivity.

27. Bombardier SMP 800-C (2000), Toxic Gas Generation Test.

28. ASTM B117-97 500 hrs., Standard Practice for Operating Salt Spray (Fog) Apparatus.

29. ASTM C1026-87 (1996), Standard Test Method for Measuring the Resistance of Ceramic Tile to Freeze-Thaw Cycling.

#### 1.03 PRE-INSTALLATION MEETINGS

A. Convene with related trades [one] week prior to commencing work of this Section [under provisions of] [Division 01-General Requirements] [Section 01 33 19.33].

#### 1.04 SUBMITTALS

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

1. Product Data: Product manufacturer's printed product literature for materials used in the project.
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.

#### 1.05 QUALITY ASSURANCE

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

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. Handle and store Products in a manner to prevent damage, adulteration, 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.

#### 1.07 FIELD CONDITIONS

- A. Ambient Conditions:
1. Refer to adhesive manufacturer's data sheet for application recommendations.
  2. Refer to photoluminescent product manufacturer's instructions for installation in outdoor situations.

- B. Field Measurements: Verify with field measurements prior to final preparation of cut list and manufacture.

#### 1.08 EXTENDED 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. The Warranty to cover defects in materials and workmanship.

### Part 2 - Products

#### 2.01 MANUFACTURER

- A. This photoluminescent way finding/signage specification is based on Ecoglo systems/products fabricated and distributed by Access Products Inc. 241 Main Street, Suite 100, Buffalo, NY 14203 Tel: 1-888-679-4022; Fax: 1-877-679-4022; Email: info@accessproducts.com; Web: www.accessproducts.com.
- B. Substitution products or materials not permitted unless manufacturers show proof that products have an equivalent luminance and color contrast under all lighting conditions i.e. dark, light, twilight, or dim scenarios, UV resistance, abrasion resistance, and cleanability.

#### 2.02 MATERIALS

- A. Extruded Aluminum: 6060T5 extrusion anodized to Class 1, 0.0007" (20 microns) thickness.
- B. Sheet Aluminum: 5005, 0.035" (0.9 mm) thickness.

*SPEC NOTE: Sheet aluminum is material specification for signage and markers.*

- C. Reflectance Material: 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: New York City RS6-1 brightness rating BR 106/29/20:  
  
From fully charged:
    - For 4 hours after lights go out > 15 mcd/m<sup>2</sup>
    - For 8 hours after lights go out > 7 mcd/m<sup>2</sup>
    - For 110 hours after light go out > 0.3 mcd/m<sup>2</sup>.
  - 2. UV resistance of photoluminescent properties: Loss of luminance after 1000 hrs. as per ASTM G-155 Cycle 1 exposure: < 10%.

#### 2.03 STEP EDGE CONTRAST STRIPS

*SPEC NOTE: The listed italics data included below provide product codes, sizes, colors, and reflectances for comparison purposes. Specification articles (product selections) contained within square brackets [ ] following are shown as example choices only.*

Product Code	Width of Strip	Color of Anti-Slip Area	Anti-Slip Reflectance	Photoluminescent ("PL") Area, Color	Width of PL Area
E2071	1.5" (37.5 mm)	Black	10%	Yes, Yellow/Green	0.6" (15 mm)
E2061	1.5" (37.5 mm)	Grey	20%	Yes, Yellow/Green	0.6" (15 mm)
E2051	1.5" (37.5 mm)	Yellow	50%	Yes, Yellow/Green	0.6" (15 mm)
E3071	2" (51 mm)	Black	10%	Yes, Yellow/Green	0.6" (15 mm)
E3061	2" (51 mm)	Grey	20%	Yes, Yellow/Green	0.6" (15 mm)
E3051	2" (51 mm)	Yellow	50%	Yes, Yellow/Green	0.6" (15 mm)
E4071	2" (51 mm)	Black	10%	Yes, Yellow/Green	1" (25.5 mm)
E4061	2" (51 mm)	Grey	20%	Yes, Yellow/Green	1" (25.5 mm)
E4051	2" (51 mm)	Yellow	50%	Yes, Yellow/Green	1" (25.5 mm)
N1070	2" (51 mm)	Black	10%	No	N/A
N1060	2" (51 mm)	Grey	20%	No	N/A
N1050	2" (51 mm)	Yellow	50%	No	N/A

A. [E] [G] [N] Series Step Edge Contrast Strips: powder coated extruded alum. insert with Silicon Carbide non-slip material and/or photoluminescent pigment, recessed into protective channels.

1. [Ecoglo Model No. E4051 Contrast Strip, yellow non-slip color, having 50% anti-slip reflectance; 2" (51 mm) overall width with 1" (25.5 mm) wide luminescent area x 0.1" (1.8 mm) thick.

## 2.04 STAIR NOSINGS

**SPEC NOTE:** The listed *italics data included below provide product codes, colors, reflectances and sizes for comparison purposes. Specification articles (product selections) contained within square brackets [ ] following are shown as example choices only. There are no product tables provided for "Carpet Nosings" or "Thresholds".*

Product Code	Color of Anodizing	Color of Anti-Slip Area	Anti-Slip Reflectance	Photoluminescent ("PL") Area, Color	Width of PL Area
F7170	Clear	Black	10%	No	
F7160	Clear	Grey	20%	No	
F7150	Clear	Yellow	50%	No	
F7270	Black	Black	10%	No	
F7260	Black	Grey	20%	No	
F7250	Black	Yellow	50%	No	
F7171	Clear	Black	10%	Yes, Yellow/Green	0.6" (15 mm)
F7161	Clear	Grey	20%	Yes, Yellow/Green	0.6" (15 mm)
F7151	Clear	Yellow	50%	Yes, Yellow/Green	0.6" (15 mm)
F7271	Black	Black	10%	Yes, Yellow/Green	0.6" (15 mm)
F7261	Black	Grey	20%	Yes, Yellow/Green	0.6" (15 mm)
F7251	Black	Yellow	50%	Yes, Yellow/Green	1" (25.5 mm)
FA7171	Clear	Black	10%	Yes, Yellow/Green	1" (25.5 mm)
FA7161	Clear	Grey	20%	Yes, Yellow/Green	1" (25.5 mm)
FA7271	Black	Black	10%	Yes, Yellow/Green	1" (25.5 mm)
FA7261	Black	Grey	20%	Yes, Yellow/Green	1" (25.5 mm)
FA7251	Black	Yellow	50%	Yes, Yellow/Green	1" (25.5 mm)

- A. Flat Stair Nosings: Ecoglo anodized alum. extrusion with replaceable insert adhesively fixed into extrusion; powder coated extruded alum. insert with Silicon Carbide non-slip material and/or photoluminescent pigment, recessed into protective channels.
1. [Ecoglo Model No. F7151, Yellow non-slip area having 50% reflectance; 2.6" (66 mm) tread width x 0.6" (15 mm) riser height x length to suit stair width.]
  2. [Ecoglo Model No. F8171, Black non-slip area having 10% reflectance; 3" (75 mm) tread width x 1" (25 mm) riser height x length to suit stair width; width of PL area 0.6" (15 mm).]
  3. [Ecoglo Model FA8161, Grey non-slip area having 20% reflectance; 3" (75 mm) tread width x 1" (25 mm) riser height x length to suit stair width; width of PL area 1" (25.5 mm).]
  4. [Ecoglo Model F8150, Yellow non-slip area having 50% reflectance; 3" (75 mm) tread width x 1" (25 mm) riser height x length to suit stair width; no PL area.]
- B. Carpet Nosings: Ecoglo anodized alum. extrusion with replaceable insert adhesively fixed into extrusion; powder coated extruded alum. insert with Silicon Carbide non-slip material and/or photoluminescent pigment, recessed into protective channels.
1. [Ecoglo Model No. C5151, Yellow non-slip area having 50% reflectance; 2.6" (66 mm) tread width x 0.8" (20 mm) riser height x length to suit stair width.]

## 2.05 GUIDANCE & HANDRAIL STRIPS

*SPEC NOTE: The listed italics data included below provide product codes, sizes, colors, reflectances and other data for comparison purposes. Specification articles (product selections) contained within square brackets [ ] following are shown as example choices only.*

- A. Thresholds: Ecoglo anodized alum. extrusion with replaceable insert adhesively fixed into extrusion; powder coated extruded alum. insert with Silicon Carbide non-slip material and/or photoluminescent pigment, recessed into protective channels.
1. [Ecoglo Model No. T3171, Black non-slip area having 10% reflectance; 1.92" (47 mm) overall width with 0.6" (15 mm) wide luminescent area x 0.1" (3 mm) thick x length to suit door width.]

*SPEC NOTE: The listed italics data included below provide product codes, sizes, colors, reflectances and other data for comparison purposes. Specification articles (product selections) contained within square brackets [ ] following are shown as example choices only.*

<i>Product Code</i>	<i>Width of Strip</i>	<i>Photoluminescent (PL) Area, Color</i>	<i>Width of PL Area</i>
<i>H3001</i>	<i>0.6" (15.5 mm)</i>	<i>Yes, Yellow/Green</i>	<i>0.6" (15 mm)</i>
<i>H5001</i>	<i>1" (27 mm)</i>	<i>Yes, Yellow/Green</i>	<i>1" (25.5 mm)</i>

- B. Handrail Strips: Ecoglo strips formed to curvature of handrail with photoluminescent area recessed into protective channels.
1. [Ecoglo Model No. H3001, Yellow color, 0.6" (15.5 mm) overall width with 0.6" (15 mm) wide luminescent area x 0.1" (2 mm) thick x 0.8" (19 mm) radius.]
- C. Handrail End Caps: Ecoglo polymer, White color, 3/32" (2 mm) thickness approx.
1. [Ecoglo Model No. EC-H001, White, 1" (25.4 mm) wide x 0.83" (16.1 mm) length x 0.26" (6.5 mm) height.]

D. Hazard/Obstruction Indicator: Ecoglo powder coated alum. sheet material with photoluminescent pigment.

1. [Ecoglo Model No. OB82025, alternating diagonal stripes, 1" (25 mm) wide, of black and yellow/green photoluminescent, 1" (25 mm) wide x length as required.

## 2.06 SIGNS & MARKERS

A. Signage: Ecoglo powder coated alum. sheet material with photoluminescent pigment.

1. Ecoglo Egress Sign Model No. [EX2010] [EE2010] [AR1010H] [AR1010D] [RM1010] [Exit] [Emergency Exit Only] [and] [Not An Exit], green on yellow color, [7.9" x 3.9" (200 mm x 100 mm)] [3.9" x 3.9" (100 mm x 100 mm)] size.

*SPEC NOTE: AR1010H is horizontal arrow, and AR1010D is diagonal arrow.*

2. Ecoglo Emergency Sign Model No. [FA1010 Fire Alarm] [FE1010 Fire Extinguisher] [and] [FH1010 Fire Hose], red on yellow color, 3.9" x 3.9" (100 mm x 100 mm).
3. Ecoglo Aisle Markers: Model No. [RE65/45] [RE45/32.5] [SQ88/88] [[RE38/151 [with] [without] [holder]]] [DS60] [DS68] [with] [without] [holder]; [black on yellow color] [yellow on black color]; manufacturer's standard size.
4. Ecoglo Seat Numbers: Model No. [SQ31.9r] [DS40] [EL18.7/56.7] [OR14.7/27.2] [OR16/44.6]; [black on yellow color] [yellow on black color]; manufacturer's standard size.
5. Ecoglo Hazard/Obstruction Indicator Marker: Model No. OB82025, alternating diagonal stripes, 1" (25 mm) wide, of black and yellow/green photoluminescent, 1" (25 mm) wide x length as required.

## Part 3 - Execution

### 3.01 EXAMINATION

- A. Before installation, examine surfaces for the Work of this Section. Notify [Contractor] if substrates do not comply with requirements of this Section.
- B. Do not proceed with Work of this Section until unsatisfactory conditions have been corrected.
- C. Commencement of Work will imply acceptance of surfaces.

### 3.02 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 compatibility with photoluminescent products before using adhesives or mechanical fastening.

### 3.03 INSTALLATION

- A. Install signs [as per Schedule attached at end of Section] [where shown on Drawings].
- B. Unless otherwise indicated in the specifications, install Products in accordance with manufacturer's instructions. Obtain written instructions directly from manufacturer.
- C. Install Products plumb, square, and in alignment where required.

D. All surfaces e.g. concrete, steel or wood:

1. Fix Products using premium urethane adhesive, and/or mechanical fasteners, if required, through pre-drilled holes.

3.04 CLEANING

- A. At completion of installation, clean soiled Product surfaces in accordance with manufacturer's instructions.

3.05 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 disposal at hazardous materials depot.

3.06 PROTECTION

- A. Allow 24 hours for adhesive cure with no foot traffic permitted.
- B. Protect areas from damage with barriers, markers or temporary signs as required.
- C. Do not allow heavy objects to come in contact with installed products.

Location	Product/Sign	Description	Color	Fixing

**END OF SECTION**

**Attachments:**

PRODUCTS/SIGNAGE SCHEDULE



VISIBLY BETTER

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