

## PART 1 - GENERAL

### 1.1 REFERENCES

- .1 Aluminum Association (AA)
  - .1 DAF 45-[2003(R2009)], Designation System for Aluminum Finishes.
- .2 American Society for Testing and Materials International (ASTM)
  - .1 ASTM A1008-[11]/A1008M-[11], Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
- .3 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-B651-[04(R2010)], Accessible Design for the Built Environment.
- .4 International Standards Organization (ISO)
  - .1 ISO 3864-1:[2011], Safety Colours and Safety Signs.
  - .2 ISO 7010:[2011], Graphical Symbols - Safety Colours and Safety Signs - Registered Safety Signs.
- .5 National Building Code of Canada (NBCC) [2010].

SPEC NOTE: NFPA 101 is only for grandfathered exterior and wet location signs, not interior signs to NBC.

- .6 National Fire Protection Association (NFPA)
  - .1 NFPA 101-[2009], Life Safety Code.
- .7 Ontario Building Code (OBC) [2006] [2012].
- .8 Underwriters Laboratories of Canada (ULC)

SPEC NOTE: ULC/ORD-924 does not include the running man graphic not required by NBC 2010, Division B, article 3.4.5.1 2). It is only for lettered signs being grandfathered under this old standard. The OBC has been revised to match the NBC 2010.

- .1 ULC/ORD-924-[02], Standard for Emergency Lighting and Power Equipment.
- .2 CAN/ULC-S572-[10], First Edition Standard for Photoluminescent and Self-Luminous Exit Signs and Path Marking Systems.

### 1.2 SUBMITTALS

- .1 Product Data: submit in accordance with Section [01 11 01][01 33 00].
  - .1 Submit manufacturer's printed product literature, specifications and data sheet and include product characteristics, performance criteria, physical size, running person graphic size, finish and limitations.
  - .2 Submit information on components of each item that can be recycled and recycling program parameters, name and contact information of company accepting material for recycling.

- .3 Submit maintenance information for each item.
- .2 Samples: submit in accordance with Section [01 11 01][01 33 00].
  - .1 Submit one full size sample of each type and pattern of photoluminescent exit sign.
  - .2 Submit one sample of each frame material and finish.
- 1.3 SUBMITTALS
  - .3 Quality Assurance Submittals: submit following in accordance with Section [01 11 01][01 45 00].
    - .1 Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, cleaning procedures and schedule for periodic visibility inspections.
    - .4 Submit manufacturer's written, unconditional material warranty for lumination of photo-luminescent exit signs. For the Work of this Section 10 14 43 Photoluminescent Signs the 12 months warranty period prescribed in subsection GC3.13 of General Conditions is extended to 25 years.
- 1.4 DESIGN CRITERIA
  - .1 Exit signs:
    - .1 Design to NBC, Division B, articles 3.4.5 and 9.9.10, and OBC, Division B.
    - .2 Interior running man signs: cUL listed and labelled, to CAN/ULC-S572.
    - .3 Exterior and wet location signs: UL and ETL listed and labelled. Visibility: minimum [22.88 m (75 ft)][30.5 m (100 ft)], viewing distance in accordance with NFPA 101.
- 1.5 DELIVERY, STORAGE, AND HANDLING
  - .1 Store products in accordance with manufacture's AND HANDLING requirements
  - .2 Store products I manufacture's unopen packaging With labels intact ready for installation
  - .3 Store and dispose of solvent-based materials and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- 1.6 PRODUCT CONDITIONS
  - .1 Environmental Requirements: Maintain Environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacture's absolute limits.

PART 2 – PRODUCTS

- 2.1 MATERIALS
- .1 ABS plastic: to ASTM, colour.  
Maximum flame spread, maximum smoke developed.
  - .2 Aluminum: minimum 80% recycled content.
    - .1 Aluminum extrusion: to Aluminum Association alloy 6063-[T6] or 6063-T6. Finish: brushed with AA-[A31] [MILL-A8625] clear anodizing to DAF 45.
    - .2 Aluminum sheet: to Aluminum Association AA1100. Finish: [brushed with AA-A31 clear anodizing] [[red] [green] [black] colour [baked enamel] [powder coat] [E-coat] to DAF 45.
    - .3 Cast aluminum: to ASTM. Finish: AA-[red] [green] [black] colour [baked enamel] [powder coat] [E-coat] to DAF 45.
- 2.1 MATERIALS
- .3 Sheet steel: to ASTM A1008/A1008M, cold rolled sheet, not oiled, minimum 25% recycled content, minimum [1.0]mm thick.

SPEC NOTE: For Correctional Service Canada, consider frameless steel signs bolted or epoxy adhered to surfaces.

- .4 Photoluminescent material (PLM): strontium aluminate.

SPEC NOTE: Do not use products with zinc and phosphorus in the base which are hazardous in landfill.

- 2.2 PHOTO-EXIT SIGN FABRICATION of the Authority having jurisdiction.
- SPEC NOTE: Installation should be with the approval LUMINESCENT

- .1 Photoluminescent (PLM) exit sign: to CAN/ULC-S572, cUL 36DT, [ABS plastic] [aluminum] [steel], recyclable, non-toxic, cUL listed for indoor [or outdoor] locations, complete with mounting bracket, [single] [double] face, thin, low profile design[, explosion proof].

SPEC NOTE: Before installation it must be determined that there is a minimum of 22 LX (2 Fc) of light on the face(s) of the sign at all times during building occupancy.

- .1 Visibility(interior): minimum [15.25 m (50 ft)] [22.88 m (75 ft)][30.5 m (100 ft)].

SPEC NOTE: Letters and chevrons on signs are accepted on text based signage. The running person graphic requires the approved graphic for arrows as stated in the NBC 2010 and CAN/ULC-S572.

- .2 Letter: size to CAN/ULC-S572. Colour: red on high visibility green. Directional chevrons:  
[1] [2] per side.
- .3 Running person graphic: to CAN/ULC-S572
- .4 Directional indicator: arrows [1] [2] per side.
- .5 Mounting: ABS plastic, [surface] [flag] [ceiling] [conduit], assembly kit.
- .6 Frame: [ABS plastic] [aluminum housing] [frameless] [ABS][steel]] [as indicated].
- .7 Charging: minimum 22 LX (2 Fc) of light on the faces of the sign at all times during building occupancy.

2.3 DESIGN X1

SPEC NOTE: Repeat the following paragraphs as often as necessary to cover exit light types in project. Co-ordinate with any powered exit signs specified in Section 26 53 00.

- .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Right facing.
  - .3 Single face.
  - .4 Aluminum frame.
  - .5 Wall mount.
  - .6 No Arrows/Chevrons.
  - .7 Durability: explosion proof.

2.4 DESIGN X2

- .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Right facing.
  - .3 Single face.
  - .4 Aluminum frame.
  - .5 Ceiling/pendant mount.
  - .6 No Arrows/Chevrons.
  - .7 Durability: explosion proof.

2.5 DESIGN X3

- .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Left facing.
  - .3 Single face.
  - .4 Aluminum frame.
  - .5 Wall mount.
  - .6 No Arrows/Chevrons.
  - .7 Durability: explosion proof.

- 2.6 DESIGN X4 .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Left facing.
  - .3 Single face.
  - .4 Aluminum frame.
  - .5 Ceiling/pendant mount.
  - .6 No Arrows/Chevrons.
  - .7 Durability: explosion proof.
  
- 2.7 DESIGN X5 .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Right facing.
  - .3 Single face.
  - .4 Aluminum frame.
  - .5 Wall mount.
  - .6 With pictogram arrow.
  - .7 Durability: explosion proof.
  
- 2.8 DESIGN X6 .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Right facing.
  - .3 Single face.
  - .4 Aluminum frame.
  - .5 Ceiling/pendant mount.
  - .6 With pictogram arrow.
  - .7 Durability: explosion proof.
  - .8
  
- 2.9 DESIGN X7 .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Left facing and right facing.
  - .3 Double face.
  - .4 Aluminum frame.
  - .5 Ceiling/pendant mount.
  - .6 No Arrows/Chevrons.
  - .7 Durability: explosion proof.
  
- 2.10 DESIGN X8 .1 Screen printed green pictogram (running man) exit sign:
  - .1 15.240 m (50') viewing.
  - .2 Left facing and right facing.
  - .3 Double face.
  - .4 Aluminum frame.
  - .5 Ceiling/pendant mount.
  - .6 With pictogram arrow.
  - .7 Durability: explosion proof.

### PART 3 - EXECUTION

- 3.1 MANUFACTURER'S INSTRUCTIONS .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and data sheets.

- 3.2 INSTALLATION
  - .1 Notify sign manufacturer prior to installation.
    - .1 Install in locations indicated on drawings, in accordance with NBC and manufacturer's written instructions.
  - .2 Erect level, square, plumb and flush with surface.
  
- 3.3 CLEANING
  - .1 Proceed in accordance with Section [01 11 01] [01 74 11].
  - .2 Clean photoluminescent sign face with a non-abrasive cloth dampened with water. Do not use any chemical solvents.
  - .3 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.