

Inspection and Maintenance Instructions for Photoluminescent Disaster Preparedness Signs

1. Check that all signs installed have the following test certification with the relevant Pass Criteria (PC):

a. UV Resistance

ASTM G155-04 Cycle 1 1000hrs, Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-metallic Materials.

PC – Loss in luminance after exposure < 10%

b. Salt Spray Resistance

ASTM B117-97 500hrs, 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:

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. Complete the following inspections to ensure signs continue to operate as per original installation.

Action	Complete
Installation checked against original plans (where available).	
All signs are still configured as at installation and there is no material damage to any of the signs.	
All signs are clean from general dust build up and any other specific obscuring deposits.	
All signs are clearly visible and have not been covered up.	

The above checks should be carried out regularly and at least once every 12 months to ensure reliability of the system in case of emergency.

Any repairs or replacements required should be carried out immediately. A log of all inspections including results and any corrective measures taken should be recorded and kept on the premises for inspection by relevant authority. The log should contain the inspection dates and printed name and signature of the person performing the inspection.

In situations where signs are likely to become dirty, it is recommended that frequent checks and cleaning are done.