

Photoluminescent Lighting Council Standard

PLCS 102H(AU) Hybrid Photoluminescent Exit Signage: Routine Service and Maintenance

SECTION 1 - PRINCIPLES

1.1 Scope

This standard sets out the *routine service* and responsive maintenance procedures necessary to ensure that *hybrid PL exit signs* installed to meet the Building Code of Australia continue to meet the requirements of the Building Code of Australia.

1.2 Objective

The objective of this standard is to define the process for the *routine service* and responsive maintenance of *hybrid PL exit signs* to ensure ongoing compliance with the Building Code of Australia, so that the *hybrid PL exit signs* continue to meet their required function of identifying exits to facilitate evacuation.

1.3 Application

This standard details the *routine service* and responsive maintenance procedures required for *hybrid PL exit signs*, and requires that outcomes are recorded accordingly.

1.4 Referenced Documents

This standard refers to the following specifications and regulations:

- a. Standards Australia Technical Specification (SA TS) 5367: 2021, Photoluminescent exit signage: Hybrid photoluminescent signage — Product specification, installation and operation.
- b. Building Code of Australia: NCC 2022 Part E4.

1.5 Definitions

Conformance defect: means missing (or incorrect) information that would be required to facilitate *routine service* and responsive maintenance. For example, missing *installation documentation*.

Hybrid PL exit sign: means an exit sign consisting of photoluminescent elements and contrasting elements where the photoluminescent elements are maintained in a charged state by an integrated light source.

Installation documentation: means the documentation detailed in clause 2.1.

Light source life expectancy: means the manufacturer declared light source life for

hybrid PL exit signs calculated using projection methodology as described in SA TS 5367: 2021, Appendix A.

Luminance, contrast and luminance uniformity test: means testing as described in SA TS 5367: 2021, Clause 2.4.

Managing entity: means the building owner or their appointed agent.

Minor defect: means a physical defect which does not cause the entire system/sign to be ineffective. For example, an unclean or obstructed *hybrid PL exit sign*.

Outstanding defect: means any defect recorded from the previous inspection which remains unresolved.

Photoluminescent performance test: means testing as described in SA TS 5367: 2021, Clause 2.3.

PL: means photoluminescent.

Routine Service: means inspection, testing, and preventative maintenance at pre-determined intervals.

RSM entity: means one or more persons or entities qualified or sufficiently trained to carry out relevant *routine service* and maintenance activities specified elsewhere in this Standard.

Serious defect: means a defect which causes the entire system/signs to be ineffective. For example, a non-operational exit sign where it is the only available sign in a space.

SECTION 2 – FUNDAMENTAL REQUIREMENTS

2.1 Installation Documentation

The *installation documentation* provides evidence that the installed *hybrid PL exit signs* meet the relevant requirements in NCC 2022 Part E4.

The *installation documentation* also assists the *routine service* and responsive maintenance processes by confirming the physical location of all *hybrid PL exit signs*, and confirms when a sign will need to be replaced due to gradual degradation of the light source, even if the sign shows no obvious signs of failure.

The following documents form the *installation documentation* and should have been collated by the *managing entity* on or before the initial installation of any *hybrid PL exit signs*:

- a. Plan detailing the location, brand and model number of the *hybrid PL exit signs*, and their installation date.
- b. *Photoluminescent performance test* report(s) traceable to the *hybrid PL exit signs* as new.
- c. *Luminance, contrast and luminance uniformity test* report(s) traceable to the *hybrid PL exit signs* as new.

d. *Light source life expectancy* data traceable to the *hybrid PL exit signs* as new.

The *RSM entity* or the *managing entity* shall update the *installation documentation* if any changes are made to the system design or any *hybrid PL exit signs* are replaced.

SECTION 3 - REQUIRED REPORTING AND RECORDS

All (hard/soft copy) records and written reports must be kept and maintained confirming *routine service* and responsive maintenance have been carried out by the *RSM entity* for a period of 2 years.

3.1 Summary Report

At the completion of the procedures detailed in Section 4 the *RSM entity* shall provide the *managing entity* with a summary report detailing any unresolved *serious defects* for immediate remedy.

3.2 Detailed Report

Within one week of carrying out the procedures detailed in Section 4 the *RSM entity* shall provide the *managing entity* with a detailed report containing the following:

- a. Name and/or address of the installation
- b. *Routine service* frequency
- c. *Routine service* date
- d. Applicable building code reference
- e. *Conformance defects*
- f. *Serious defects*
- g. *Minor defects*
- h. *Outstanding defects*
- i. *Managing entity* details
- j. *RSM entity* details

SECTION 4 – ROUTINE SERVICE AND MAINTENANCE PROCEDURES

4.1 Required Routine Service and Maintenance Procedures

The *routine service* and responsive maintenance procedures shall be carried out as detailed in Clauses 4.2 and 4.3 of this standard.

4.2 Six-Monthly Procedures

Six-monthly *routine service* (in this case inspection and preventative maintenance) and responsive maintenance of *hybrid PL exit signs* are to be carried out by the *RSM entity*.

If the *installation documentation* is available, it shall be used as the template for the

inspection and maintenance procedures.

If the *installation documentation* is not available, this shall be noted in the detailed report as a *conformance defect*.

Inspection is to be carried out to check the following:

- All signs are still configured as at installation and there is no material damage to any of these products.
- 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.
- All signs are still illuminated (see Note 1 below).

Preventative maintenance and responsive maintenance is to be carried out to ensure the following:

- All signs are still configured as at installation and there is no material damage to any of these products.
- All signs are clean from general dust build up and any other specific obscuring deposits (see Note 2 below).
- All signs are clearly visible and have not been covered up.
- All signs are still illuminated (see Note 1 below).

Note 1. It is recommended that inspection be carried out when the sign is electrically powered up. If the sign is viewed when its electrical supply is disconnected the sign's glow may not be apparent in a well-lit environment.

Note 2. If there is any visible accumulation of dust or other deposits on the face of a *hybrid PL exit sign*, clean it in accordance with manufacturer's cleaning instructions.

4.3 Annual Procedures

Annual *routine service* (in this case inspection) and responsive maintenance of *hybrid PL exit signs* is to be carried out by the *RSM entity*.

If the *installation documentation* is available, it shall be used as the template for the inspection and maintenance procedure.

If the *installation documentation* is not available, this shall be noted in the detailed report as a *conformance defect*.

Inspection and responsive maintenance is to be carried out to check the following:

- No signs have reached the *light source life expectancy*.

SECTION 5 – REPLACEMENT OF SIGNS

Hybrid PL exit signs shall be replaced in the following situations:

- Physical damage has resulted in the sign not being clearly visible to occupants;
- The sign's integrated light source has failed, resulting in the sign not being illuminated when it is connected to the building's electrical supply;
- The sign has passed the *light source life expectancy*.

In order to ensure that replacement *hybrid PL exit signs* meet the relevant requirements in NCC 2022 Part E4, the signs shall be replaced with *hybrid PL exit signs* that meet the acceptance criteria set down in SA TS 5367: 2021, Clauses 2.3 and 2.4. This includes luminance performance, contrast, and luminance uniformity requirements.