



Australian Government

Assessment Requirements for CPCCSG3011 Install LED technology into signs

Release: 1

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Modification History

Release 1.

This version first released with CPC Construction, Plumbing and Services Training Package Version 2.

Revised unit of competency. Replaces superseded non-equivalent CPCCSI3011A Use LED technology for signage, CPCCSI3012A Apply electrical theory for illuminated signage, and CPCCSI3013A Install LED systems.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit, and must select and install light emitting diode (LED) systems into three signs as follows:

- two fabricated lower case 'b' in Helvetica font, measuring at least 600 mm high x 75 mm wide, and 100 mm deep and mounted to a white surface:
 - one must be face illuminated, with the face of the letter formed of opal acrylic and the back of the letter with a PVC foam backing
 - one must be halo lit, with the sides and face of the letter formed of non-illuminating cast acrylic and the back of the letter formed of clear acrylic
- one freestanding back lit light box measuring up to 1800 mm x 300 mm x 100 mm, with an opal acrylic face.

In doing the above work, the person must:

- identify and confirm client requirements for the finished job, including:
 - colour and brightness requirements
 - location for finished sign
 - quality and performance requirements of finished sign
- lay out, install and secure the LED modules to each sign to ensure even and consistent lighting
- test lights and correct any faults in light distribution.

Knowledge Evidence

A person demonstrating competency in this unit must demonstrate knowledge of:

- application and use of:
 - safety data sheets (SDS) when working with LED components
 - safe work method statements (SWMS) when installing LED systems into signs

- capacity of different surface types to absorb or reflect LED light
- electrical theory relevant to selecting and using LED technology for signs, including:
 - processes to calculate maximum driver loading for LED modules
 - regulation of electrical current in LED systems
- principles and application of design and layout theory relevant to sign manufacture, including:
 - balance
 - colour and colour harmony
 - contrast
- use, application and limitations of red, green and blue (RGB) colour system in LED signs
- limitations of sign manufacturer's role when working with electrical components, including licensing and regulatory requirements applicable to working with electricity
- pitch as it relates to positioning LED modules in fabricated letters and light boxes
- requirements for working safely around power sources, services and assets
- techniques for evaluating and using:
 - LED systems and packages
 - LED components
- uses, applications and limitations of LED technology for illuminating signs, including:
 - colour types and limitations
 - components
 - durability
 - semi-conductor chip technology characteristics
 - systems and system packages
- processes to manage heat generated by LED
- terminology used in manufacture of signs.

Assessment Conditions

Suitable assessment of performance requires:

- equipment and tools:
 - as listed in the range of conditions
- materials:
 - as listed in the range of conditions
- specifications:
 - fabricated letters as specified in the performance evidence
 - light box as specified in the performance evidence
 - SDS
 - SWMS
- contingencies:
 - processes to identify and rectify faults in LED systems and uneven distribution of light
- timeframe:

- according to job requirements.

Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>