

be energy safe

Electrical safety at festivals and events



Ensuring safe electrical installations at stalls, stages and in public areas of festivals and events helps avoid dangerous consequences, including fire, electric shock, injury or death.

An electrical installation at a festival/event includes wiring systems that power devices at stages, within concession tents, living quarters and other structures, and includes using extension cords and power boards.

The Office of the Technical Regulator inspects electrical installations to ensure they are safe. The most common issues, which are covered in this brochure, include:

- overhead wiring
- installing cables, including extension cords
- festoon and decorative lighting clearances.

Did you know that it is illegal to do your own electrical work?

Only licensed electricians can do work on electrical installations in South Australia. If you do electrical work without a licence, you may receive a fine. It can also be extremely dangerous for you and result in serious injury, or even death. Insurance companies may not cover fire or personal injury claims caused by do-it-yourself electrical work.

Licensed tradespeople have the equipment, training and knowledge to do the necessary work safely and in accordance with appropriate regulations and rules. When using a licensed tradesperson you should ensure they:

- hold an appropriate South Australian trade licence – search for trade licences at cbs.sa.gov.au
- provide you with an electrical certificate of compliance for work they do for you – visit sa.gov.au/otr for more information about certificates of compliance.

You should keep your certificate of compliance and the invoice for the work, as proof that the work was done correctly.

Legal obligations

Who is responsible?

Safety at festival and events is everyone's responsibility. Stallholders and festival/event facilitators must ensure the electrical set-up is safe for users and the public.

Penalties of up to \$250,000 may apply if an electrical installation is not safe or safely operated.

Stallholders are responsible for ensuring a licensed South Australian electrician connects and tests their electrical installation.

The overall legal responsibility for the electrical safety of a festival or event lies with the person who owns or operates the site, e.g. the land owner or council, who is considered the 'facilitator' of the festival/event.

The facilitator may either supply electricity to the festival/event, or allow stallholders to run an electricity supply on their land. The facilitator needs to have appropriate procedures and policies in place to regulate that an electrician with a South Australian licence undertakes all electrical work at the festival/event. The licensed electrician must issue a certificate of compliance for the work done at the festival/event, which the facilitator can rely on as confirmation the electrical installations are safe.

Testing and verifying electrical safety

Electrical installations must comply with **Australian Standard AS/NZS3002 – Shows and carnivals**.

All electrical work on new or existing electrical installations should be completed by a South Australian licensed electrician, who must issue a certificate of compliance to verify the work is done to appropriate standards and is safe to operate.

Electrical certificates of compliance are legal documents required under the *Electricity Act 1996* and are designed to protect customers, by confirming the work has been installed and tested to appropriate Australian standards and is safe to use, and electricians, by confining their responsibilities to the work they've done.

Overhead wiring

If installing overhead wiring near concession tents/stalls, parking areas or in areas where there is pedestrian/vehicle traffic, the wires must be at least 6m above the ground (see figure 1).

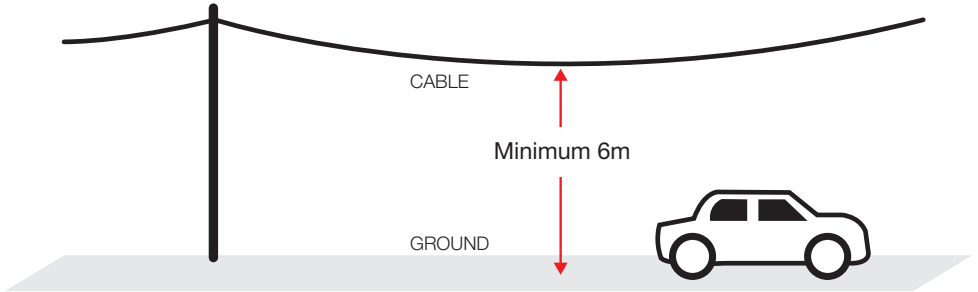


Figure 1: Cables near vehicle traffic must be at least 6m above the ground.

Where possible, overhead wiring should not cross roadways or access-ways where cranes, high loads or heavy machinery may travel.

If overhead wiring must cross a roadway or access-way, two additional flagged cables (or other suitable warning cables) must be installed 6m either side of the overhead wiring, and at least 0.6m below the lowest point of the overhead wiring (see figures 2 and 3).

When strung up, all cables must be able to hold their own weight at the appropriate height, as an insulated aerial conductor, or be supported by a secondary wire, e.g. a steel wire or rope.

The photo on the adjoining page shows a cable that is too low, has no secondary support and is not flagged.

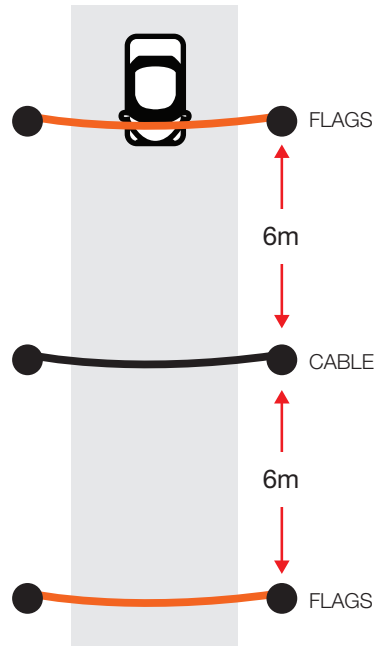


Figure 2: Cables crossing roadways must have warning flags.

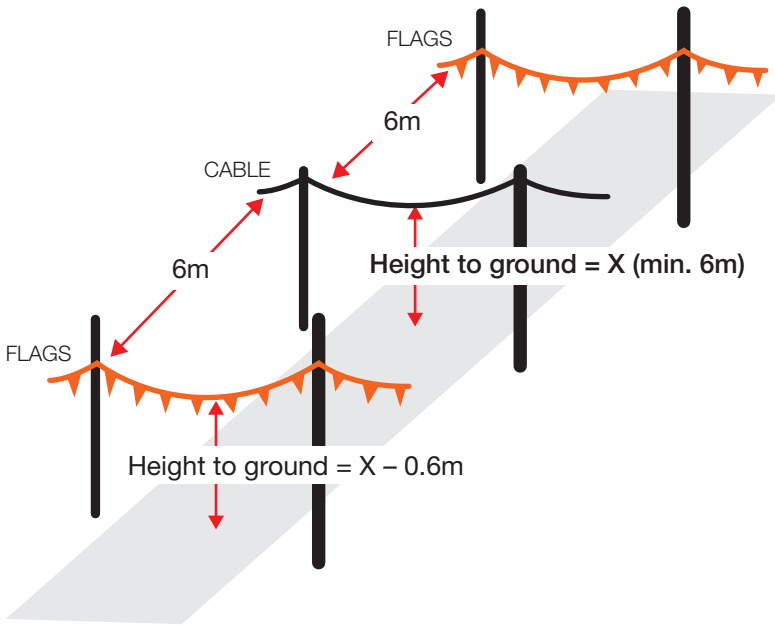


Figure 3: Cables crossing roadways must have warning flags 6m either side of the cable, at least 0.6m lower than the cable.



The cable in the foreground is not installed correctly, as it is too low, has no secondary support, and is not flagged.

Installing cables, including extension cords

All electrical cables, including extension cords and powerboards to individual tents/stalls, must be designed and installed to the appropriate Australian standard by a South Australian licensed electrician.

A licensed electrician will ensure that the size of the cable used is appropriate for its purpose and will avoid appliances ‘burning out’ from voltage issues, or catching fire.

All flexible cables must have an adequate cross-sectional area for their overall length and for the current that will be drawn through them.

The table below shows the maximum length for flexible cables (extracted from AS/NZS3002, table 4.1).

Cord extension set rating	Conductor area	Maximum length of flexible cord	
		General use	For equipment with high energy starting currents that may affect the safe operation of equipment
(A)	(mm ²)	(m)	(m)
10	1.0	25	15
	1.5	35	25
	2.5	60	40
	4.0	100	60
15/16	1.5	25	15
	2.5	40	25
	4.0	65	45
20	2.5	30	20
	4.0	50	30

Any socket outlets, extension cord plugs or other connectors exposed to the weather must be protected from water. Socket outlets and plugs must be correctly IP (ingress protection) rated for their location, and extension lead plugs must have appropriate coverings. Plastic bags are not appropriate protective materials for connections, as they can collect water rather than keep it out.

Image 1 below shows an incorrectly installed extension cord. It has no protection from the weather and no support from a secondary cable.

Image 2 below is a socket coupler, which is a safe way of covering extension cord plugs.



Image 1



Image 2

Cables lying on the ground can be a tripping hazard and can be easily damaged. Vehicle and foot traffic can wear out the outer covering of the cable and expose the bare copper, which can cause electric shocks and fire. Any cables on the ground should have protective covering, such as the plastic channel shown below in Image 3.



Image 3

Festoon and decorative lighting clearances

Lamps can release a large amount of heat. To avoid a fire and injury risks, festoon and decorative lighting must be at least:

- 150mm away from flammable materials or structural metal work
- 6m above the ground in an area that may have any vehicle traffic
- 2.7m above the ground in an area where people are likely to stand, unless precautions are taken to prevent accidental contact or the lamp holders are installed immediately below a ceiling or fixed to a structure in a way they will not get damaged.

Image 4 below does not meet any of the requirements. It is too close to structural metal work and is too low. There is also a missing globe, which means the exposed live terminals are in easy reach and may cause an electric shock or fire.

Image 5 below does not meet the requirements, as the lights are within 150mm of the tree, which is a flammable material.



Image 4



Image 5

Contact the Office of the Technical Regulator for more information

Online sa.gov.au/otr

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**Government of
South Australia**