

Guidelines for correct electrical supply and testing for lifts in service - including builders lifts

Purpose

To provide practical guidance on prescribed inspection and testing requirements for passenger lifts.

To ensure passenger lifts installed in commercial building structures, which are available for passenger use are provided with electrical supply and protective devices designed for safe operation.

Application

These guidelines apply to a lift installer, installation work responsible person and builders or building owners in control of installations where lifts are used to convey passengers.

Background

Passenger lifts used in all Victorian commercial installations are considered to be a safety service as defined in Australian/New Zealand Wiring Rules. As such they are to be installed to conform to requirements of AS/NZS 3000:2007 & AS/NZS 1735.1 prior to use for conveying passengers. Often in early stages of construction passenger lifts are commissioned to be used as a lift to convey persons and materials during the remainder of the construction stage. This type of passenger lift is commonly termed a 'builders lift'.

Where a passenger lift is to be used as a 'builders lift' it must meet all requirements for the testing and commissioning to ensure performance and safety mechanisms are verified.

Passenger lifts, being a safety service, are required to have prescribed electrical installation work inspected by a licensed electrical inspector prior to the lift being placed in service. This is a requirement of the Electricity Safety (Installation) Regulations 2009.

Inspection of electrical installation work

A person who is responsible for the carrying out of prescribed electrical installation work must ensure that that work is inspected by a licensed electrical inspector in accordance with the regulations before the electrical installation is connected to the electricity supply, or if the electrical circuits or electrical equipment handled in the course of the work were not disconnected from the electricity supply, before the work is first used after it is completed.

An installation work responsible person must ensure that the licensed electrical inspector inspecting any prescribed electrical installation work is not a person who is employed by the installation work responsible person; or a related body corporate of the installation work responsible person.

Energy Safe Victoria expectations

The passenger lift must pass all requirements of the Prescribed Inspection before handover for use.

Recommended items to be inspected for verification:

- All mains and sub mains from the point of supply through to the lift switchboard associated with the lift installation to ensure appropriate WS rating is provided.
- Basic protection (protection against direct contact with live parts), e.g. insulation and enclosure.

- Fault protection (protection against indirect contact with exposed conductive parts).
- Protection against hazardous parts, e.g. enclosure, guarding or screening of flammable materials, hot surfaces and parts that may cause physical injury.
- Protection against spread of fire, e.g. penetration of fire barriers.
- Motor room door installation and labelling.
- General condition of the electrical equipment, e.g. signs of damage that could impair safe operation, disconnection of unused electrical equipment.

Mains

- Identification of cable cores.
- Current carrying capacity of mains.
- Voltage drop, e.g. size and length of conductors and load.
- Underground installation conditions, e.g. enclosure, depth of burial, mechanical protection.
- Connection of wiring.
- Protection against external influences.

Switchboards

- Location, e.g. access and egress, not in a restricted location.
- Protective devices, e.g. selection and setting of adjustable protective devices for compliance with over current protection, arc fault protection and discrimination.
- Isolating devices, e.g. main switches.
- Connecting devices, e.g. neutral bars, earth bars and active links.
- Connection and fixing of wiring and switchgear.
- Identification and labelling of electrical equipment.
- Protection against external influences, e.g. mechanical damage.

Definitions

Licensed Electrical Inspector - a person holding an inspector's licence under the Electricity Safety (Installations) Regulations 2009.

Passenger lift - in this document, passenger lift means an electrically controlled lift that is capable of conveying passengers, but does not include a lift installed in a single private residence in accordance with AS/NZS 1735.18.

Safety service - has the same meaning as it has in the Australian/New Zealand Wiring Rules AS/NZS 3000:2007.

Prescribed electrical installation work - For the purposes of the Electricity Safety Act 1998 section 45, prescribed electrical installation work means work on all or part of any of the following electrical installations if they are ordinarily operated at low voltage or a voltage exceeding low voltage — circuit protective devices, switchgear, control gear, wiring systems and accessories (other than fire detection and alarm systems) installed to provide control and protection of passenger lifts.

Verification - all measures by means of which compliance of the electrical installation with the relevant requirements of AS/NZS 3000 and AS/NZS3017:2000 is checked.



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Further information

Electricity Safety Act 1998.

Electricity Safety (Installation) Regulations 1999.

Acts & Regulations are available from Information Victoria on 1300 366 366 or order online at www.bookshop.vic.gov.au.

They can be viewed by visiting the ESV website at www.esv.vic.gov.au.

Australian/New Zealand Wiring Rules means AS/NZS 3000, Australian/New Zealand Standard, "Electrical installations", as published or amended from time to time.

AS/NZS 3017:2000 means AS/NZS 3017:2000, Australian/New Zealand Standard, Electrical installations – Verification Guidelines.

AS/NZS 1735.1 means AS/NZS 1735.1, Australian/New Zealand Standard, "Lifts, escalators and moving walks – General requirements", as published or amended from time to time.

Standards Australia publications can be obtained by contacting Standards Australia on 1300 654 646 or by visiting their website at www.standards.com.au.

This guidance material has been prepared using current and best information available to Energy Safe Victoria. You should check the legislation referred to in this document and make your own judgement about what action you need to undertake to ensure compliance with the law.