Australian Elevator Association

IPP 33	Fire resistance requirements in Lift Shafts and Lift Cars	Nov 2025
AEA	Installation & Major Modernisation	Draft

Subject

This Industry Position Paper (IPP) focuses giving clarity on the fire resistance requirements in lift shafts and lift cars.

The National Construction Code (NCC) Volume 1 sets out Fire Resistance Levels (FRL) for 'buildings and building elements' in Class 2 to Class 9 buildings.

Builders have responsibility for determining the Type of building and building elements and therefore the FRL of the machine room (as applicable), lift shaft and lift pit construction.

Lift suppliers / installers have the responsibility to ensure compliance with the FRLs in the NCC with regards to lift landing door entrances, penetrations in the lift shaft and requirements for the floor, wall and ceiling linings of lift cars.

NCC Definition

Fire Resistance Level (FRL) has the following criteria,

(a) Structural adequacy, and
(b) Integrity, and
(c) Insulation

Which are expressed in that order with grading periods in minutes,
i.e. -/-/- a dash means there is no requirement for that criteria, a number indicates the time in minutes, -/60/- would mean no structural adequacy requirement, 60 minutes of Integrity required, and no Insulation requirement.

NCC Requirements for lift *shafts*

NCC 2022 Vol 1 C4D11 Openings in fire isolated lift shafts

(1) Doorways – if a lift *shaft* is required to be fire-isolated, an entrance doorway to that *shaft* must be protected by -/60/- fire doors that –
  (a) comply with AS 1735.11, and
  (b) are set to remain closed except when discharging or receiving passenger, goods or vehicles.

(2) Lift indicator panels – A lift call panel, indicator panel or other panel in the wall of a fire-isolated lift *shaft* must be backed by construction having an FRL of not less than -/60/60 if it exceeds 35,000 mm^2 in area.

Note[1] – The intent of C4D11 is to maintain the integrity of a fire-isolated lift shaft and to limit the spread of fire from one floor of a building to another floor by way of the lift shaft.

AS 1530.4 (the Australian Standard for the Standard Fire Test) requires lift landing doors to be tested for integrity. Such doors are usually of metal construction and are not required to satisfy any insulation criteria.

Lift indicator panels, penetrations through the fire rated lift shaft construction wall in excess of 35,000 mm² are considered to represent a sufficient risk of spreading fire into a lift shaft. Indicator panel penetrations exceeding this size require backing by material having a fire-resistance level (FRL) of -/60/60.

Small panel penetrations through the fire rated lift shaft construction wall of 35,000 mm² or less are unlikely to lead to the spread of fire into the lift shaft. This exemption is similar in principle to those allowed by C3.1 (NCC 2019) for minor openings such as control joints, weep holes, subfloor ventilators and the like. (Information taken from the NCC 2019 Guide on C3.10 Openings in fire-isolated lift shafts).

Most modern penetrations through the fire rated lift shaft construction wall for Landing Indicator Panels (indicator panel) and Landing Button Panels (call panel) are 30 mm to 50 mm diameter only because they are surface mounted to the outside of the lift shaft.

Note² – Lift installers / suppliers of lift landing door entrance sets need to have a Fire Assessment Report or Fire Test Report from an accredited laboratory on the type of entrance set installed, they should also have installation methodology in line with the manufacturers requirements with regards to ensuring the FRL.

Note³ – Lift landing door entrance sets include the following components, landing doors, sill, header, jambs and the material used to close the gap between the lift landing door frame and the construction wall. Some MRL's have the 'controller' built into the top floor served landing door frame or adjacent to the landing door frame and are assessed as part of the landing entrance set.

NCC Requirements for lift cars

NCC 2022 Vol 1 S7C7 Lift cars
Materials used as –

(a) floor linings and floor coverings must have a *critical radiant flux* not less than 2.2, and
(b) wall and ceiling linings must be Group 1 material or a Group 2 material in accordance with AS 5637.1

Note⁴ - Lift installers / suppliers of lift cars need to have Certificates from an accredited laboratory to confirm compliance of the flooring, walls and ceiling linings.
Many modern lift cars are of metal construction for wall and ceiling linings and as such are considered non-combustible materials.

Summary

Lifts, lift shafts and lift components / elements have specific requirements within the NCC, and these must be considered in isolation. Similar NCC clauses unless specific to lifts are not to be considered, e.g. C4D15 Opening for service installations.

For further information contact the Original Equipment Manufacturer (OEM), your installation provider, or the AAVT (AEA).

Version Control

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R1	Draft	AEA	1/11/2025