

TN024 – Sonnen eco Series – Commercial Property Installation Requirements

The installation of any sonnen system within a commercial building is currently directed by the classifications contained within the ‘National Building Codes of Australia’ namely sub-section C2.12:

C2.12 Separation of equipment

- (a) Equipment other than that described in (b) and (c) must be separated from the remainder of the building with construction complying with (d), if that equipment comprises—
- (i) lift motors and lift control panels; or
 - (ii) emergency generators used to sustain emergency equipment operating in the emergency mode; or
 - (iii) central smoke control plant; or
 - (iv) boilers; or
 - (v) a battery or batteries installed in the building that have a voltage exceeding 24 volts and a capacity exceeding 10 ampere hours.
- (b) Equipment need not be separated in accordance with (a) if the equipment comprises—
- (i) smoke control exhaust fans located in the air stream which are constructed for high temperature operation in accordance with **Specification E2.2b**; or
 - (ii) stair pressurising equipment installed in compliance with the relevant provisions of AS/NZS 1668.1; or
 - (iii) a lift installation without a machine-room; or
 - (iv) equipment otherwise adequately separated from the remainder of the building.
- (c) Separation of on-site fire pumps must comply with the requirements of AS 2419.1.
- (d) Separating construction must have—
- (i) except as provided by (ii)—
 - (A) an FRL as *required* by **Specification C1.1**, but not less than 120/120/120; and
 - (B) any doorway protected with a *self-closing* fire door having an FRL of not less than –/120/30; or
 - (ii) when separating a lift *shaft* and lift motor room, an FRL not less than 120/–/–.

Fire-resistance level (FRL) means the grading periods in minutes determined in accordance with **Specification A2.3**, for the following criteria—

- (a) *structural adequacy*; and
- (b) *integrity*; and
- (c) *insulation* and expressed in that order.

Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.

The FRL (Fire Resistance Level) required as per specification C1.1 is as follows:

C1.1 Type of construction required

- (a) The minimum Type of *fire-resisting construction* of a building must be that specified in **Table C1.1** and **Specification C1.1**, except as allowed for—

- (i) certain Class 2, 3 or 9c buildings in **C1.5**; and
- (ii) a Class 4 part of a building located on the top storey in **C1.3(b)**; and
- (iii) *open spectator stands* and indoor sports stadiums in **C1.7**.

(b) Type A construction is the most fire-resistant and Type C the least fire-resistant of the Types of construction.

| Rise in storeys | Class of building | |
|-----------------|-------------------|------------|
| | 2, 3, 9 | 5, 6, 7, 8 |
| 4 OR MORE | A | A |
| 3 | A | B |
| 2 | B | C |
| 1 | C | C |

The class of buildings is as follows:

| Classes of Building | | |
|---------------------|---|---|
| Class 1 | Class 1a | A single dwelling being a detached house, or one or more attached dwellings, each being a building, separated by a fire-resisting wall, including a row house, terrace house, town house or villa unit. |
| | Class 1b | A boarding house, guest house, hostel or the like with a total area of all floors not exceeding 300m ² , and where not more than 12 reside, and is not located above or below another dwelling or another Class of building other than a private garage. |
| Class 2 | A building containing 2 or more sole-occupancy units each being a separate dwelling. | |
| Class 3 | A residential building, other than a Class 1 or 2 building, which is a common place of long term or transient living for a number of unrelated persons. Example: boarding-house, hostel, backpackers accommodation or residential part of a hotel, motel, school or detention centre. | |
| Class 4 | A dwelling in a building that is Class 5, 6, 7, 8 or 9 if it is the only dwelling in the building. | |
| Class 5 | An office building used for professional or commercial purposes, excluding buildings of Class 6, 7, 8 or 9. | |
| Class 6 | A shop or other building for the sale of goods by retail or the supply of services direct to the public. Example: café, restaurant, kiosk, hairdressers, showroom or service station. | |
| Class 7 | Class 7a | A building which is a car park. |
| | Class 7b | A building which is for storage or display of goods or produce for sale by wholesale. |
| Class 8 | A laboratory, or a building in which a handicraft or process for the production, assembling, altering, repairing, packing, finishing, or cleaning of goods or produce is carried on for trade, sale or gain. | |
| Class 9 | A building of a public nature. | |
| | Class 9a | A health care building, including those parts of the building set aside as a laboratory. |
| | Class 9b | An assembly building, including a trade workshop, laboratory or the like, in a primary or secondary school, but excluding any other parts of the building that are of another class. |
| | Class 9c | An aged care building. |
| Class 10 | A non-habitable building or structure. | |
| | Class 10a | A private garage, carport, shed or the like. |
| | Class 10b | A structure being a fence, mast, antenna, retaining or free standing wall, swimming pool or the like. |
| | Class 10c | A private bushfire shelter. |

Conclusion

If a sonnen systems where to be installed within either a Class 1,2 or 3 building, then they don't require to be installed within a room with the 120/120/120 fire resistance level and will just need to be within a non-inhabitable room.



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If, however they are in any other commercial building then BCA C2.12 states that the specified FRL of the room itself has to be illustrated to have been achieved and any doorway is protected with a self-closing fire door having an FRL of not less than -/120/30 as the batteries contained within the sonnen systems have a voltage exceeding 24 volts and capacity exceeding 10 ampere hours.

If you have any further questions or comments within this regard, please feel free to contact the sonnen Australia service division at any time.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "J Sturch".

James Sturch
Technical Business Manager Australia & New Zealand