



Protection from Fire Acceptable Solutions C/AS1 – C/AS7

Protection from Fire Acceptable Solutions C/AS1 – C/AS7

The requirements of the Building Code clause for Protection from Fire (C) aim to protect people in buildings, limit fire spreading to other buildings, and help firefighting and rescue.

There are seven Acceptable Solutions, C/AS1 to C/AS7, that support the Building Codes clauses for Protection from Fire. Each Acceptable Solution applies to a risk group, which is based on the risk presented by the activities carried out in a building or part of a building.

You must read this
with Information Sheet
Amendment 3: www.dbh.govt.nz/c-fire-info

These clear and relatively straightforward set of solutions for buildings and parts of buildings can be used by building design professionals including designers who do not necessarily have specific fire engineering qualifications.

The seven Acceptable Solutions for Protection from Fire:

- are for simple buildings without complex features or systems such as multiple mezzanine floors, an atrium, or stair pressurisation systems
- do not require any calculation or modelling other than simple multiplication and
- are intended for use by building professionals who do not necessarily have specific fire engineering qualifications.

A companion document "Commentary on the Acceptable Solutions for Protection from Fire":

- explains the requirements of the Acceptable Solutions and
- records, in some cases, the intent of those requirements.

Download the companion document from www.dbh.govt.nz/compliance-documents



IMPORTANT

If any aspect of a new design, or its features or systems is outside of the scope of the Acceptable Solutions, then:

- Verification Method C/VM2 can generally be used for that building or firecell, and
- The expertise required to apply the Verification Method is likely to be held only by a building professional with specific fire engineering qualifications, such as a Chartered Professional Engineer.

Want to know more? www.dbh.govt.nz/compliance-documents





Complex buildings and features outside the scope of the Acceptable Solutions

- Warehouse/storage buildings with a storage height of 5m or more, that aren't protected with automatic fire sprinklers.
- Buildings where foamed plastics are manufactured or processed or are part of chemical processing plants.
- Prisons and district health board detention buildings where occupants are unable to self-evacuate due to security features of the building.
- Buildings incorporating an atrium, such as multi-floor shopping malls.
- Intermediate floors that are either larger than the limits specified for limited area intermediate floors or where there may be more than 100 people on intermediate floors.
- Where smoke control is used.
- Buildings more than 20 storeys high (from ground level).
- Stadia or grandstands where tiered seating is provided for more than 2,000 people or where the primary escape routes for more than 100 people are above the level of the playing surface.
- Treatment or care facilities where occupants require a stay-in-place strategy eg, general anaesthetic operations/procedures, delivery rooms, intensive care units, hyperbaric chambers.

? What risk group does each Acceptable Solution cover?

Risk Group	Acceptable Solution	Description of building (or building part) use
SH	C/AS1	Houses. That is, detached houses and buildings sub-divided into multiple dwellings, provided that they are a maximum of two units high. There is no limit on the number of units side by side. This Risk Group does not include buildings where there is a corridor or stairway serving more than one dwelling (ie, people from each dwelling have their own independent escape route to a safe place). Outbuildings are also included in this risk group. An outbuilding is a building that is not intended for human habitation and is accessory to the principal use of associated buildings.
SM	C/AS2	Permanent accommodation such as apartments, and temporary accommodation such as hotels, motels, hostels, backpackers and education accommodation. That is, all multiple unit accommodation buildings that are not included in Risk Group SH regardless of whether the accommodation is considered permanent or temporary.

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Risk Group	Acceptable Solution	Description of building (or building part) use
SI	C/AS3	Institutions, hospitals, residential care, rest homes, medical day treatment (using sedation), and detention spaces in police stations and courthouses. That is, any space where care is provided to occupants who are in some way incapacitated or are otherwise unable to evacuate without assistance, or would be delayed in their evacuation.
CA	C/AS4	Halls, recreation centres, public libraries (with less than 2.4m storage), cinemas, shops, personal services (dentists and doctors except as included in C/AS3, beautician and hairdressing salons), schools, restaurants and cafes, and early childhood centres. That is, places where people congregate or visit.
WB	C/AS5	Offices (including professional services such as law and accountancy practices), laboratories, workshops, manufacturing (excluding foamed plastics), factories, processing, storage units capable of less than 5m high storage. That is, places where people work (but not including places where personal services are provided which are Risk Group CA).
WS	C/AS6	Warehouses (capable of 5m or more storage), cool stores, and trading and bulk retail (with 3m or more storage). That is, buildings where large quantities of commodities are stored or where the risk is higher than in other Risk Groups.
VP	C/AS7	Vehicle parking within a building or a separate building. That is, any place where vehicles are parked or stored, including car parks, truck and bus parks, stacked boat storage, and light aircraft hangers.



REMEMBER

You need to determine the risk group for all activities carried out in the building. Pick the nearest suitable one if yours is not specifically mentioned in one of the Acceptable Solutions.

If there is more than one risk group for a single firecell, determine its primary risk group (this is the one with the most onerous fire safety requirements).

If a building has more than one firecell and those firecells have different risk groups, you will need to follow more than one Acceptable Solution. For example, a building may contain office space (which is designed to C/AS5) and a car park (designed to C/AS7).

A firecell is a space in a building that is fire separated from all other spaces.

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What is an Acceptable Solution (AS)?

An Acceptable Solution details one way to comply with the relevant part of the Building Code. If you follow and meet the requirements of the solution described, your building work will meet that part of the Building Code.



IMPORTANT

Changes were made to the Acceptable Solutions C/AS1 - C/AS7 on 1 July 2014. This information is still valid but you must read it with Information Sheet Amendment 3: www.dbh.govt.nz/c-fire-info

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