

Corrections to 2019 C/AS2 Acceptable Solution

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Building Controls Update 254

On 27 June 2019, the Ministry of Business, Innovation and Employment (MBIE) published the new *C/AS2 (Acceptable Solution for Buildings other than Risk Group SH) for fire* (<https://www.building.govt.nz/building-code-compliance/c-protection-from-fire/c-clauses-c1-c6/#jumpto-acceptable-solutions-and-verification-methods>).

The document combines what were previously six separate Acceptable Solutions for fire into one.

Although every attempt was made to ensure the new document was correct, some unintentional errors occurred. The Building System Performance branch is planning to address these issues in the next biannual Building Code update, which will go out for public consultation in February 2020.

In the interim, three priority corrections will be made immediately to C/AS2 to coincide with the end of the transition period (31 October 2019). These are:

1. Within the scope for risk group WB, under 'Storage activities such as', a typo was made including the word 'no' (see the corrections as per the red mark-ups below). Refer to page 34 in 2019 C/AS2, Table 1.1 WB.



Table 1.1

Risk groups and limitations		
	Risk Group	Applies to
WB	Business, commercial and low level storage	<p>Professional activities such as: Offices (including professional services such as law and accountancy practices). Laboratories, workshops (including mechanics workshops). May contain storage with a capable height of storage of less than 3.0 m.</p> <p>Industrial activities such as: Factories, processing and manufacturing plants (excluding <i>foamed plastics</i>) with a capable height of storage of less than 3.0 m.</p> <p>Storage activities such as: <i>Buildings</i> or part of <i>buildings</i> capable of storage no more than 5.0 m in height. Warehouses and storage <i>buildings</i> (other than those listed above), capable of storage no more than 5.0 m in height, but with a height to the apex no greater than 8.0 m and total floor area of no more than 4200 m². Temperature controlled storage with a capable height of storage of less than 3.0 m, other than some limited areas in processing areas, or up to a maximum area of 500 m² with a maximum capable of storage height of 5.0 m.</p> <p>Intermittently occupied buildings (other than outbuildings) such as: Light aircraft hangers, <i>buildings</i> containing fixed plant and/or fixed machinery and spray painting operations whether or not in a spray booth.</p>

2. Re-inserting the requirement for a Type 9 in Table 2.2b for buildings in risk group CA with an occupant load between 251 and 1000 people, and an escape height between 4 and 10 metres. Refer to page 43 in 2019 C/AS2.

Table 2.2b

Minimum fire safety systems by type required for crowd uses, risk group CA ¹						
Risk group	Occupant load	Escape height (metres)				
		0	< 4	≥ 4 to < 10	≥ 10 to < 25	≥ 25
CA	< 100	2 ^{2,3} , 18 ⁶	2 ³ , 18 ⁶	4 ^{4,5} , 9, 18 ⁶	4 ^{4,5} , 9, 15, 18 ⁶	7, 9, 15, 18
	100 to 250	2 ³ , 18 ⁶	2 ³ , 18 ⁶	4 ^{4,5} , 9, 18 ⁶	4 ^{4,5} , 9, 15, 18 ⁶	7, 9, 15, 18
	251 to ≤ 1000	4 ^{4,5} , 18 ⁶	4 ^{4,5} , 18 ⁶	4 ^{4,5} , 9, 18 ⁶	4 ^{4,5} , 9, 15, 18 ⁶	7, 9, 15, 18
	> 1000	7, 9, 18 ⁶	7, 9, 18 ⁶	7, 9, 18 ⁶	7, 9, 15, 18 ⁶	7, 9, 15, 18

Notes:

Fire safety system types are as defined in Table 2.2.

- Refer to Paragraph 2.2.2 for additional requirements that apply to *early childhood centres*.
- This system is not required in single level *buildings* where the *escape route* serves no more than 50 people.
- Provided the use is not as a cinema or *theatre*, a Fire and Emergency New Zealand connection is not required if a phone is available for 111 calls.
- Where the environment is challenging for smoke detection, the Type 4 system may be substituted with a Type 3 system with supplementary smoke detection.
- May be substituted with a Type 6 system where the *building's occupant load* does not exceed 500, each floor is a *firecell*, *intermediate floors* comply with Paragraph 4.13.4, and there are no sleeping area *firecells* within the *building*.
- Not required where the height from Fire and Emergency New Zealand vehicular access to any floor is less than 15 m and Fire and Emergency New Zealand hose run distance to any point on any floor is less than 75 m, as measured from Fire and Emergency New Zealand vehicular access.

3. Amending Table 2.2c to allow for the substitution of a Type 3 with additional smoke detectors where the environment might be too challenging for a Type 4. With the development of the new table in the 2019 C/AS2, key footnotes were erroneously left out. Where the occupant load is 100 to 250 and 251 to 1000, and the escape height is between 0 and <4 metres (four fields altogether), footnote 4 should be added to allow for this substitution. Each of the four boxes should read: 4^{4,5,6}, 18⁷. Refer to page 44 in 2019 C/AS2.

Table 2.2c

Minimum fire safety systems by type required for working uses, risk groups WB and WS						
Risk group	Occupant load	Escape height (metres)				
		0	<4	≥4 to <10	≥10 to <25	≥25
WB	< 100	2 ^{1,2,3} , 18 ⁷	2 ^{2,3} , 18 ⁷	4 ^{4,5} , 9, 18 ⁷	4 ^{4,5} , 9, 15, 18 ⁷	7, 9, 15, 18
	100 to 250	4 ^{4,5,6} , 18 ⁷	4 ^{4,5,6} , 18 ⁷	4 ^{4,5} , 9, 18 ⁷	4 ^{4,5} , 9, 15, 18 ⁷	7, 9, 15, 18
	251 to ≤ 1000	4 ^{4,5,6} , 18 ⁷	4 ^{4,5,6} , 18 ⁷	4 ^{4,5} , 9, 18 ⁷	4 ^{4,5} , 9, 15, 18 ⁷	7, 9, 15, 18
	> 1000	7, 9, 18 ⁷	7, 9, 18 ⁷	7, 9, 18 ⁷	7, 9, 15, 18 ⁷	7, 9, 15, 18
WS	≤ 1000	6, 18 ⁷	6, 18 ⁷	6, 18 ⁷	6, 15, 18 ⁷	6, 15, 18
	> 1000	7, 18 ⁷	7, 18 ⁷	7, 18 ⁷	7, 15, 18 ⁷	7, 15, 18

Notes:**Fire safety system types are as defined in Table 2.2**

1. This system is not required in single level *buildings* (excluding storage *buildings* with a storage height greater than 3.0 m) where the *escape route* serves no more than 50 people.
2. A Type 3 system is required where the storage height exceeds 3.0 m.
3. A Fire and Emergency New Zealand connection is not required if a phone is available for 111 calls.
4. Where the environment is challenging for smoke detection, the Type 4 system may be substituted with a Type 3 system with supplementary smoke detection.
5. May be substituted with a Type 6 system where the *building's occupant load* does not exceed 500, each floor is a *firecell*, *intermediate floors* comply with Paragraph 4.13.4, and there are no sleeping area *firecells* within the *building*.
6. A Type 3 system is permitted to be provided in *firecells* used for storage where the storage height is over 3.0 m.
7. Not required where the height from Fire and Emergency New Zealand vehicular access to any floor is less than 15 m and Fire and Emergency New Zealand hose run distance to any point on any floor is less than 75 m, as measured from Fire and Emergency New Zealand vehicular access.

