



## Ministry of Business, Innovation & Employment

Dear Customer

Please find attached the December 2013 errata to C/AS7 Acceptable Solution for Buildings Used for Vehicle Storage and Parking (Risk Group VP), published by the Ministry of Business, Innovation and Employment. The Ministry of Business, Innovation and Employment combines the former Department of Building and Housing, Department of Labour, Ministry of Economic Development and Ministry of Science and Innovation.

To update your printed copy of C/AS7, please make the following changes:

<b>Section</b>	<b>Previous version</b>	<b>December 2013 amendment</b>
<b>C/AS7 Acceptable Solution for Buildings Used for Vehicle Storage and Parking (Risk Group VP)</b>		
Title pages	Remove document history/status	Replace with new title page and document history/status
References	Remove pages 7/8	Replace with new pages 7/8
C/AS7 Part 1	Remove pages 13/14	Replace with new pages 13/14
C/AS7 Part 2	Remove pages 15/16	Replace with new pages 15/16



### Status of C/AS7

This Acceptable Solution C/AS7, for buildings used for vehicle storage and parking (Risk Group VP), provides a means of compliance with the New Zealand Building Code Clauses C1-C6 Protection from Fire. It is issued under section 22 of the Building Act 2004 as an Acceptable Solution.

This Acceptable Solution is one way that can be used to show compliance with the New Zealand Building Code Clauses C1-C6 Protection from Fire. Other ways of complying with the Building Code are described, in general terms, in the preface of the New Zealand Building Code Handbook.

### When can you use C/AS7

This Acceptable Solution is effective from 19 December 2013. It can be used to show compliance with the Building Code Clauses C1-C6 Protection from Fire. It does not apply to building consent applications submitted before 19 December 2013.

The previous version, Amendment 1 (Errata 1), of this Acceptable Solution can be used to show compliance with the Building Code Clauses C1-C6 Protection from Fire until 18 June 2014. It can be used for building consent applications submitted before 19 June 2014.

Document History		
	Date	Alterations
New document	Effective from 10 April 2012	C/AS7 is a new publication that can be used to show compliance with the Building Code Clauses C1-C6 Protection from Fire.
Amendment 1 (Errata 1)	Effective from 15 February 2013 until 18 June 2014	p. 11 Definitions p. 19 4.1.2 p. 20 5.6.2
Amendment 2	Effective from 19 December 2013	p. 7 References p. 14 1.1.1, 1.1.2, Table 1.1 p. 15 2.2.1, 2.2.3



# References

For the purposes of New Zealand Building Code compliance, the New Zealand and other Standards, and other documents referred to in this Acceptable Solution (primary reference documents) shall be the editions, along with their specific amendments, listed below. Where the primary reference documents refer to other Standards or other documents (secondary reference documents), which in turn may also refer to other Standards or other documents, and so on (lower order reference documents), then the applicable version of these secondary and lower order reference documents shall be the version in effect at the date this Acceptable Solution was published.

## Standards New Zealand

NZS 4510: 2008 Fire hydrant systems for buildings  
*Amend: 1*

NZS 4512: 2010 Fire detection and alarm systems in buildings

NZS 4541: 2013 Automatic fire sprinkler systems

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## Where quoted

Table 2.1

Table 2.1

Table 2.1



# Part 1: General

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- 1.1 Introduction and scope
- 1.2 Using this Acceptable Solution

## 1.1 Introduction and scope

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This Acceptable Solution can be used for establishing compliance with NZBC C1 to C6 Protection from Fire. It is one of a suite of Acceptable Solutions C/AS1 to C/AS7, each of them corresponding to a *risk group* (summarised in Table 1.1 and defined in Paragraph 1.1.1).

If the uses of a *building*, or part of a *building*, cover more than one *risk group*, one or more of these Acceptable Solutions may need to be followed to demonstrate compliance. Notes shown under '**Comment:**', occurring throughout this document, are for guidance purposes only and do not form part of this Acceptable Solution. Words in *italic* are defined at the front of this document. For ease of use, paragraphs, tables and figures containing similar information are allocated the same reference numbers in each of the Acceptable Solutions.

### **Comment:**

It is recommended that the commentary document for Acceptable Solutions C/AS1 to C/AS7 be read in conjunction with this Acceptable Solution.

<b>Table 1.1 Risk groups and Acceptable Solutions</b>			
	<b>Acceptable Solution</b>	<b>Risk group</b>	<b>Applies to</b>
C/AS1	Single household units and small <i>multi-unit dwellings</i>	SH	Houses, townhouses and small <i>multi-unit dwellings</i> Limited area outbuildings
C/AS2	Sleeping (non institutional)	SM	Permanent accommodation eg, apartments Transient accommodation eg, hotels, motels, hostels, backpackers Education accommodation
C/AS3	Care or detention	SI	Institutions, hospitals (excluding special care facilities), residential care, resthomes, medical day treatment (using sedation), detention facilities (excluding prisons)
C/AS4	Public access and educational facilities	CA	Crowds, halls, recreation centres, public libraries (<2.4 m storage height), cinemas, shops, personal services (eg, dentists and doctors except as included above, beautician and hairdressing salons), schools, restaurants and cafes, <i>early childhood centres</i>
C/AS5	Business, commercial and low level storage	WB	Offices (including professional services such as law and accountancy practices), laboratories, workshops, manufacturing (excluding <i>foamed plastics</i> ), factories, processing, cool stores (capable of <3.0 m storage height) and other storage <i>buildings</i> capable of <5.0 m storage height, light aircraft hangars
C/AS6	High level storage and other high risks	WS	Warehouses (capable of ≥5.0 m storage height), cool stores (capable of ≥3.0 m storage height), trading and bulk retail (≥3.0 m storage height)
C/AS7	Vehicle storage and parking	VP	Vehicle parking – within a <i>building</i> or a separate <i>building</i>

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## Scope

**1.1.1** The scope of this Acceptable Solution is restricted to *risk group* VP. This includes:

- a) Car parking *buildings*
- b) Vehicle parking or stacking within *buildings*
- c) Goods vehicle parking
- d) Service vehicle and unloading areas (where required by Acceptable Solutions C/AS2 to C/AS6)

- f) Car storage warehouses, and

### Comment:

Vehicles include, but are not limited to, cars, trucks and boats.

**1.1.2** Specific exclusions from the scope are:

- a) Car showrooms
- b) Mechanical workshops, and
- c) Single level boat sheds.

## 1.2 Using this Acceptable Solution

The requirements for *risk group* VP are the same as those for *risk group* WB, which are contained in Acceptable Solution C/AS5, with the following additions/exceptions:

- a) If the following paragraphs have the same numbering as those in Acceptable Solution C/AS5, the requirements in this Acceptable Solution shall replace those in C/AS5, and
- b) If the following paragraphs have different numbering to those in Acceptable Solution C/AS5, the requirements are unique to this Acceptable Solution and shall apply in addition to those in C/AS5.

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# Part 2: Firecells, fire safety systems and fire resistance ratings

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- 2.2 Fire safety systems
- 2.3 Fire resistance ratings

## 2.2 Fire safety systems

**2.2.1** The *fire safety systems* for *firecells* required for this *risk group* shall be as follows. Alarm system types shall be as defined in Table 2.1.

### For ≤10 m escape height:

- a) Type 2 alarm system that need not be connected to the Fire Service (not required if there are less than 50 occupants and less than 10 vehicles), and
- b) Type 18 *building fire* hydrant system, unless the Fire Service hose run distance from Fire Service vehicular access to any point on any floor is less than 75 m.

### For >10 m escape height:

- a) Type 3 alarm system that need not be connected to the Fire Service, and
- b) Type 18 *building fire* hydrant system, unless the Fire Service hose run distance from Fire Service vehicular access to any point on any floor is less than 75 m.

### Storage or parking using a vehicle stacking system

- a) Type 6 system, and
- b) Type 18 *building fire* hydrant, unless Fire Service hose run distance from Fire Service vehicular access (see Acceptable Solution C/AS5 Part 6) to any point on any floor is less than 75 m.

If a *risk group* VP is within a *building* that is protected with an automatic *fire* alarm system, the *risk group* VP must have at the minimum a Type 3 automatic heat detection system.

**2.2.3** If the *risk group* VP is required by this Acceptable Solution to be protected with a *fire* sprinkler system and the *risk group* VP is separated from the rest of the *building* by the greater of the two property ratings, the sprinkler system need not be extended throughout the *building*.

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Table 2.1 Fire safety systems specified in this Acceptable Solution		
Type of system	System description	Relevant Standards for installation
2	Alarm system with manual call points	NZS 4512
3	Heat detection system with manual call points	NZS 4512
6	Automatic <i>fire</i> sprinkler system	NZS 4541
18	<i>Building fire</i> hydrant system	NZS 4510

## 2.3 Fire resistance ratings

### FRR values

**2.3.1** Unless explicitly stated otherwise in this Acceptable Solution, the *fire resistance ratings (FRRs)* that apply for this *risk group* shall be as follows:

*Life rating* = 60 minutes – applies to *fire* rating requirements in Part 3: Means of escape and Part 4: Control of internal fire and smoke spread.

*Property rating* = 60 minutes – applies to *fire* rating requirements in Part 5: Control of external fire spread.

**2.3.2** If a *fire* sprinkler system or cross ventilation in accordance with Paragraph 4.1.2 is provided, the *FRRs* shall be:

*Life rating* = 30 minutes

*Property rating* = 30 minutes.

**2.3.3** If there is more than one *risk group* on one floor in the *building*, the highest required *FRR* shall be applied to common spaces and shared *escape routes* for that floor level.