

Compliance Document for New Zealand Building Code Clause F5 Construction and Demolition Hazards

Prepared by the Department of Building and Housing

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ISBN 0-477-01606-5

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Defined words (italicised in the text) and classified uses are explained in Clauses A1 of the Building Code and in the Definitions at the start of this Compliance Document.

F5: Document History	
Date	Alterations
First published	July 1992
Note: Page numbers relate to the document at the time of Amendment and may not match page numbers in current document.	

Document Status

The most recent version of this document, as detailed in the Document History, is approved by the Chief Executive of the Department of Building and Housing. It is effective from 1 July 1992 and supersedes all previous versions of this document.

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New Zealand Building Code

Clause F5 Construction and Demolition Hazards

This Clause is extracted from the New Zealand Building Code contained in the First Schedule of the Building Regulations 1992.

FIRST SCHEDULE—continued	
Clause F5—CONSTRUCTION AND DEMOLITION HAZARDS	
Provisions	Limits on application
<p>OBJECTIVE</p> <p>F5.1 The objective of this provision is to safeguard people from injury, and <i>other property</i> from damage, caused by <i>construction</i> or demolition site hazards.</p> <p>FUNCTIONAL REQUIREMENT</p> <p>F5.2 <i>Construction</i> and demolition work on <i>buildings</i> shall be performed in a manner that avoids the likelihood of:</p> <ul style="list-style-type: none"> (a) Objects falling onto people on or off the site, (b) Objects falling on property off the site, (c) Other hazards arising on the site affecting people off the site and <i>other property</i>, and (d) Unauthorised entry of children to hazards on the site. <p>PERFORMANCE</p> <p>F5.3.1 Suitable <i>construction</i> methods shall be used to avoid the likelihood of tools or materials falling onto places where people might be present.</p> <p>F5.3.2 Where <i>construction</i> or demolition work presents a hazard in places to which the public has access, barriers shall be provided and shall:</p> <ul style="list-style-type: none"> (a) Be of appropriate height and <i>construction</i> to prevent site hazards from harming traffic or passersby, (b) Be difficult to climb, (c) Have no openings other than those approved by the <i>territorial authority</i> for access and viewing, (d) Have no gates or doors which project beyond the site when opened, 	

FIRST SCHEDULE—continued

Provisions

- (e) Contain no projection that would be a hazard to traffic or people, and
- (f) Be clearly marked where the barrier itself may otherwise present a hazard to traffic or passersby.

F5.3.3 Where a *construction* or demolition site contains any hazard which might be expected to attract the unauthorised entry of children, the hazard shall be enclosed to restrict access by children.

F5.3.4 Suitable barriers shall be constructed to provide a safe route for people where lifting equipment creates a risk of accident from objects falling on a place of public access, or where a similar risk results from the height at which *construction* or demolition work is being carried out.

Limits on application

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References

For the purposes of New Zealand Building Code compliance, referenced documents shall be deemed to include any amendments issued prior to the date of the Approved Document as displayed at the foot of the page on which the references are listed.

There are no referenced documents.

Definitions

This is an abbreviated list of definitions for words or terms particularly relevant to this Approved Document. The definitions for any other italicised words may be found in the New Zealand Building Code Handbook.

Building has the meaning ascribed to it by the Building Act 1991.

Construct in relation to a *building*, includes to build, erect, prefabricate, and relocate; and **construction** has a corresponding meaning.

Gantry A structure covering a public way providing protection from both the side and overhead.

Hoarding A structure alongside a public way providing side protection but no overhead protection.

Verification Method F5/VM1

No specific test methods have been adopted for verifying compliance with the Performance of NZBC F5.

Acceptable Solution F5/AS1

1.0 Work-Site Barriers

1.0.1 The necessity for barriers will depend mainly on the site location. The need will be greater in areas with high levels of pedestrian traffic (i.e. in Central Business Districts), than in industrial or rural areas. Barriers are not necessary for domestic dwellings up to 2 storeys above ground level unless specific hazards exist.

COMMENT:

At all work-sites hazard evaluation will take account of:

1. Pedestrian counts adjacent to the site.
2. Car parking adjacent to the site.
3. Location of neighbouring *buildings*.
4. Presence of neighbouring work-sites or recreation areas.
5. Proximity to schools or early childhood centres.
6. Proximity to housing.
7. The depth of a water hazard.
8. The period of time for which ponded water will be present.
9. The accessibility and 'visibility' of the site.

1.0.2 If a work-site is not completely enclosed, and unauthorised entry by children is likely, it is acceptable for specific hazards to be fenced only when workers are absent from the immediate vicinity.

1.0.3 Where the potential hazard at a work-site makes a safety barrier necessary, a barrier complying with Table 1 is an acceptable solution.

1.1 Site fences and hoardings

1.1.1 Fences and *hoardings* shall extend at least 2.0 m in height from ground level on the side accessible to the public.

1.1.2 An acceptable fence may be constructed with galvanised chainlink netting having a maximum sized grid of 50 mm x 50 mm. Post spacing shall be a maximum of 2.5 m, and the gap between the bottom of the fence and ground no greater than 100 mm.

1.1.3 Any *hoarding* shall have continuous cladding in any of the following materials:

- a) Close-butted timber with a thickness of at least 19 mm.
- b) 6.0 mm thick exterior grade plywood on studs spaced at no greater than 600 mm centres.
- c) 9.5 mm thick exterior grade plywood on studs spaced at no greater than 1000 mm centres.
- d) Continuous metal cladding constructed with studs and rails spaced to provide strength and rigidity comparable with the *hoardings* in Paragraphs 1.1.3 a) to c).

Table 1: Barriers for Different Site Conditions
Paragraph 1.0.3

Horizontal distance of work from site boundary (D)	Height of work above site boundary (H)	Acceptable barrier
Less than 3.0 m	Any height	Gantry
Between 3.0 m and 15 m	H less than D H between D and 2D H greater than 2D	Linkmesh fence Hoarding Gantry
Greater than 15 m	Any height	Linkmesh fence

1.1.4 Viewing windows where used shall be screened with chainlink netting.

1.1.5 There shall be no gap between the lower edge of *hoardings* and the ground that would allow site-water run-off to flow onto a public footway.

1.2 Water hazard fences

1.2.1 The fence shall have a height above the outside ground level of at least 1.2 m if solid sheathed or 1.8 m if constructed of netting.

1.2.2 No fence shall have external horizontal members or projections which could provide a foothold that are spaced closer than 900 mm vertically.

1.2.3 The netting mesh size shall be no greater than 50 mm x 50 mm, and there shall be no openings through which a 100 mm diameter sphere can pass.

1.3 Gantries

1.3.1 A *gantry* shall protect a walkway with a vertical side wall and a horizontal overhead platform.

1.3.2 The side wall separating the work-site from the walkway shall comply with Paragraphs 1.1.1 and 1.1.3.

1.3.3 Two side walls shall be provided where a *gantry* is adjacent to a crane pick-up point (i.e. the *gantry* is clad on the sides in accordance with Paragraph 1.1.3).

1.3.4 The outside wall, if immediately adjacent to road traffic, shall be protected by a timber fender of no less than 300 mm x 75 mm, with its lower edge 500 mm above the road surface. An alternative fender may consist of two scaffold tubes spaced vertically at 250 mm centres, with the underside of the lower tube 500 mm above the road surface.

1.3.5 The overhead platform shall have at least 2.4 m clearance above the walkway surface and be constructed of either close-butted timber at least 50 mm thick, or of steel plate having a minimum thickness of 5 mm.

COMMENT:

Refer to NZBC B1 for design loadings for *gantries*.

1.3.6 The platform shall be sufficiently watertight to prevent water dripping on walkway users.

COMMENT:

The *territorial authority* may require *gantries* to be artificially lit.

1.4 Toeboards

1.4.1 Toeboards for preventing objects falling off storage or access platforms shall be at least as high as the materials stacked on the platform, and no less than 100 mm above the platform. The maximum gap between platform and toeboard shall not exceed 10 mm.

1.4.2 If however, stacked materials are otherwise restrained from falling (e.g. if long pieces of timber are held by the handrail posts), the minimum toeboard shall be satisfactory.

COMMENT:

Where toeboards are used as a means of compliance with NZBC F5.3.1, they are not a substitute for *gantries* or *hoardings* described in Paragraphs 1.1 and 1.3.

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All references to Verification Methods and Acceptable Solutions are preceded by **VM** or **AS** respectively.

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