

## Fire Design

The Building Act 2004 puts significant emphasis on public safety and amenity of buildings. This pamphlet specifically outlines a range of fire-related issues only, and can affect virtually all building work. It does not address other building related issues.

## What It Covers

Fire issues require addressing in the following areas:

- Carports
- Houses/garages/sleepouts
- Commercial/Industrial
- Tents/Marquees/miscellaneous

## General Requirements

Buildings that are on boundaries are required to have fire rated walls. There are some standard dimensions provided in the NZ Building Code as to when and where fire walls stop and start. Commercially the further a building is from the boundary the less fire rating is required. Cross boundary issues are critical, particularly where there are sleeping type purpose groups involved.

Early warning systems are the focus of fire protection, and means of escape, with appropriate signage are pivotal in getting people to a safe place. Specific fire engineering design information is contained in the Acceptable Solutions of the NZ Building Code 'C' Documents.

## Fire Code Requirements for Carports

An open-sided building/carport, which is detached or attached to the house, does not require any fire rating if it complies with the following:

- The roof area is under 40 sq metres
- At least two sides of the perimeter are completely open to the environment
- No part of the roof is closer than 300mm to a relevant boundary.

If your carport does not fit within this criteria it will require additional fire safety requirements.

Please refer to our specific carport pamphlet for details.

## Fire Code Requirements for Houses and Garages/Sleepouts

Houses, garages or sleepouts within 1m of a defined boundary are required to have a specific designed 30 minute firewall. There are requirements detailing how this wall is to be constructed, the effect of eaves overhangs and material choices such as exterior linings. Penetrations like windows, through this firewall also have to be rated for approval. (An option is to shift the building further away from the boundary to negate the requirement for a firewall.)

Automatic smoke detection is required in all new detached dwellings and altered dwellings.

The position of these smoke detectors must be shown on all plans supplied for a Building Consent. The smoke detectors differ from the older type in that they require a hush facility to enable the alarm to be temporarily switched off.

Multiunit developments require specific fire engineering design. Please refer to our specific smoke alarm pamphlets for details.

## Fire Code Requirements for Commercial/Industrial Buildings

The scale, function and location of your commercial building will determine the extent of fire engineering information required to be submitted with your Building Consent application. Often called a "Fire Design Summary" or "Fire Facts Sheet", this document analyses all of the clauses of the Fire Code of the NZ Building Code. This document is often provided by Fire Engineers, Architects, Engineers or Designers. The document follows a logical process (specific for each building) through each of the clauses to arrive at conclusions as to the extent and range of fire safety precautions required. As an example, calculations are made as to occupant density, the distance to travel for means of escape, what fire rated materials go where, what alarm type is required, where emergency lighting is required, smoke separation, do we need a fire hydrant outside etc. This is a specialty field, and Council has trained officials available to check the information supplied, and to provide you with help to ensure all properties are safe to use.

## Fire Code Requirements for Tents / Marquees etc

These structures are often of a temporary nature and depending on complexity require similar requirements to a complete commercial building, including, but not limited to, fire alarms, emergency lighting, fire extinguishers and exit signage.

# Beginners guide to Fire Design

## The New Zealand Fire Service Role (NZFS)

The NZFS require, where greater than 5 people are sleeping (commercially), 10 people working or 100 people as a crowd are gathered, for you to have an Evacuation Scheme. This is administered by them, and you should contact your local Fire Safety Officer.

## Building Warrants of Fitness (BWOFF)

If a fire alarm (excluding domestic battery smoke alarms) is required to be installed as part of the Building Consent, then it is automatically recorded on a BWOFF (along with other systems and features – emergency lighting, lifts, auto doors etc). The building owner has regular responsibilities to ensure the continued correct operation of these life safety systems. Please refer to our specific BWOFF pamphlet.

## Alterations

Under the Building Act 2004, alteration work requires a Building Consent, and, if it fits into the categories as described previously, then the “means of escape from fire” require addressing. This includes looking at all active and passive protection features to protect people from the effects of fire whilst escaping. It excludes addressing some cross boundary issues – but your fire designer can advise you on this.

## Change of Use

Under the Building Act 2004, where a change of use occurs, two fire related sections require addressing – “means of escape from fire” (as described above) plus protection of other property. (This in essence requires a full fire design summary). Both alterations and change of use can be completed to “as near as is reasonably practicable”. (New work on the other hand must comply fully.) Please refer to our pamphlets on “Alterations” and “Change of Use”.

## Where to go to get more information

- The Approved Documents (‘C’ or Fire Documents) are available at the Whanganui Public Library.
- Contact Council or a Fire Designer
- Department of Building & Housing on [www.building.dbh.govt.nz](http://www.building.dbh.govt.nz)
- Fire Designer in Yellow Pages



**WHANGANUI  
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