

Methods of Verification

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Introduction

The purpose of this guide is to assist personnel to establish that Specified Systems within a building will support an evacuation procedure or evacuation scheme.

The Methods of Verification guide has been designed to support and provide guidance in the use of the National Building Survey Report.

Following this guide will ensure building surveys are carried out objectively and conducted in a consistent, uniform manner across all regions.

Building Elements

This guide identifies the building elements required to support safe evacuation processes, and the methods of verification to ensure that they will adequately function in the event of a fire.

Performance Outcome Statements

Each building element has a "Performance Outcome Statement" (POS). This identifies how the element is required to perform in the event of a fire.

Performance criteria statements have been provide to assist with determining Performance Outcome Statements.

Technical Information

If you require technical information - identify the Information Reference Number (IR) located in the Code column (e.g. IR 30). The IR number corresponds with information provided in the Information Reference Guide.

Notes

1. If you require further technical advice in regard to an individual building issue, refer to your local Specialist Officer: Fire Risk Management for advice.
2. If the building has a number of complex issues that require a more suitable officer to complete the building inspection process, follow your local procedure to change the Responsible Officer for the building.

Code	Assessment Elements	Page
	National Survey Report - Expanded Prompts Key - National Survey Report	
	Means of Escape	
ME01	Escape Route - number, length, height & width	
ME02	Escape Route - door functionality	
ME03	Escape Route - internal & external obstructions	
ME04	Escape Route - fire & smoke doors	
ME05	Escape Route - emergency exit signs	
ME06	Escape Route - artificial/natural & emergency lighting	
ME07	Escape Route - floor areas, stairs, slip & trip hazards	
ME08	Escape Route - flammable material & storage hazards	
ME09	Escape Route - surface finishes & suspended flexible fabrics	
ME10	Escape Route - fire rated separation systems	
ME11	Fire Alarm System	
ME12	Sprinkler System	
ME13	Building Warrant of Fitness	
	Fire Evacuation Information	
FEI01	Fire Action Notices & locations	
	Building Fire Safety	
BFS01	Use of appliance - electrical	
BFS02	Use of appliance - gas	
BFS03	Use of appliance - flammable liquid fuel	
BFS04	Control of open flames	
BFS05	Packing and unpacking of goods	
BFS06	External Fire Risk	
BFS07	Storage of goods and material inside and outside	
	Fire fighting Equipment	
FE01	Hose reels	
FE02	Fire Extinguishers	

Key			
POS	Performance Outcome Statement	ME	Means of Escape
FE	Fire fighting Equipment	IR	Information Reference (number)
IRG	Information Reference Guide	MoV	Methods of Verification
FEI	Fire Evacuation Information	BFS	Building Fire Safety

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Expanded Prompts

MoV	MEANS OF ESCAPE
ME01	Escape routes & doors are adequate for building occupant load
ME02	Internal/external escape doors are not locked, barred or blocked
ME03	Escape routes are unobstructed
ME08	Escape routes & stairwells (safe path) are not used for storage
ME04	Smoke/Fire doors operate correctly
ME05	Exit signs and directional arrows are adequate
ME06	Artificial/natural & emergency lighting (if installed) are adequate
ME10	Smoke/Fire separation is adequate
ME08	Flammable liquids or like material are stored safe or not present
ME11	Fire warning system is adequate for occupancy group
ME12	Sprinkler system has no obvious faults (if installed)
FIRE EVACUATION INFORMATION	
FEI01	Fire action notices are displayed - appropriate places/information
USE OF APPLIANCES	
BFS01	Electrical - no obvious faults
BFS02	Gas - no obvious faults
BFS03	Flammable Liquid - no obvious faults
CONTROL OF OPEN FLAMES	
BFS04	Safe working distance from likely combustibles
BFS04	No obvious potential fire risk present
PACKING/UNPACKING OF GOODS AREAS	
BFS05	Precautions in place to prevent public entry
BFS05	Areas are fire/smoke separated from stairs and other shafts
BFS05	Heating/lighting devices do not present a fire ignition risk
EXTERNAL FIRE RISK	
BFS06	No fire exposure risk from external stored material (if ignited)

Expanded Prompts Continued

STORAGE OF GOODS BUILDINGS	
	(Only for buildings that meet the requirements of Reg. 912)
BFS07	No fire exposure risk from inside storage to nearby buildings
BFS07	No fire exposure risk from outside storage to nearby buildings
BFS07	No fire exposure risk to adjacent roadways
BFS07	Surrounding scrub and other vegetation does not present a fire hazard
FIRE FIGHTING EQUIPMENT	
FE01& 2	Appropriate for risk
FE01& 2	Coverage is appropriate for risk
FE01& 2	Signage adequate
FE01& 2	Operationally ready for use
FE01& 2	In service
BUILDING WARRANT OF FITNESS	
ME13	Publicly displayed & current
ME13	All fire specified systems are listed
ME13	Compliance Schedule up to date
ME13	Expiry Date:

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Key for National Survey Report

<p>MoV – Methods of Verification: This column identifies a reference number to identify the method of verification for individual building elements in the Methods of Verification Guide.</p>
<p>Performance Concerns – Enter a description of the fire hazard or non-complying condition observed. Include the location of the condition and a brief explanation why it represents a hazard or does not comply.</p>
<p>Action Required – This records the Fire Service action required to secure compliance.</p> <p>Number values & corresponding actions:</p> <p>1 = Verbal advice, no further action required</p> <p>2 = Written advice, no further action required</p> <p>3 = Written referral to Specialist Officer: Fire Risk Management</p> <p>4 = Written notice and referral to territorial authority (29.5 letter)</p> <p>5 = Written referral to Area Manager</p> <p>6 = Written referral to Fire Service legal adviser</p>
<p>Action Times - This records the maximum timeframe for the building owner to comply with action required, before Fire Service enforcement actions are initiated.</p> <p>Number values & corresponding timeframes:</p> <p>1 = Immediately (e.g. remove a wedge from a fire door)</p> <p>2 = 24 hours</p> <p>3 = 14 days</p> <p>4 = Timeframe by agreement with Area Manager</p> <p>5 = Timeframe by agreement with Fire Service legal advisor</p>

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Definitions

All terms defined are from the Approved Documents for NZ Building Code.

Term	Definition
Concealed space	Any part of the space within a building that cannot be seen from an occupied space.
Escape route	A continuous unobstructed route from any occupied space in a building to a final exit to enable occupants to reach a safe place, and shall comprise one or more of the following: open paths, protective paths and safe paths.
Exit way	All parts of an escape route protected by fire or smoke separations, or by distance when exposed to open air, and terminating at a final exit.
Final exit	The point at which an escape route terminates by giving direct access to a safe place.
Fire cell	Any space including a group of contiguous spaces on the same or different levels within a building, which is enclosed by any combination of fire separations, external walls, roofs, and floors.
Fire safety precautions	The combination of all methods used in a building to warn people of an emergency, provide for the safe evacuation, and restrict the spread of fire, and includes both active and passive protection.
Fire separation	Any building element, which separates fire cells or fire cells and safe paths, and provides a specific fire resistance rating.
Means of escape from fire	A continuous unobstructed route of travel from any part of a floor area of a building to a place of safety; and includes all active and passive protection features required to assist in protecting people from the effects of fire in the course of their escape.
Occupied space	Any space within a building in which a person will be present from time to time during the intended use of the building.
Open path	That part of an escape route (including dead ends) within a fire cell where occupants may be exposed to fire or smoke while making their escape.
Penetration	A pipe, cable or duct passing through an opening in a fire separation.
Protective path	That portion of an exit way within a fire cell, which is protected from the effects of smoke, by smoke separations.
Purpose group	The classification in the approved documents of spaces within a building according to the activity for which the spaces are used.
Safe place	A place of safety in the vicinity of a building, from which people may safely disperse after the effects of a fire. It may be a place such as a street, open space, public space or an adjacent building.
Safe path	Part of an exit way which is protective from the effects of fire by fire separations, external walls, or by distance when exposed to open air.

Means of Escape

ME01	Escape Route – number, length, height & width
POS	Escape routes will facilitate a safe escape from the effects of a fire for the maximum permitted occupant load.

Method of Verification

Process	All escape routes are to be physically viewed.
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Performance Criteria	
ME01.1 <i>IR 30</i>	Number of escape routes is adequate for the risk.
ME01.2 <i>IR 31</i>	Building escape routes will allow building occupants adequate time to reach a safe place without being overcome by the effects of a fire.
ME01.3 <i>IR 32</i>	Escape routes height & width do not pose a risk to building occupants escaping the effects of a fire.
ME01.4	Escape doors before or at the final exits will safely accommodate maximum permitted occupant load demands and provide building occupants with escape to a safe place.

ME02	Escape Route – door functionality
POS	Doors on escape routes are not locked, barred or blocked (except as permitted by the Building Code), open easily in the direction of escape to a safe place and will facilitate the safe escape of the building occupants from the effects of a fire.

Method of Verification

Process	<ol style="list-style-type: none"> All escape doors are to be physically viewed. For alternative locking methods for people under restraint - observe the practical testing of the release methods.
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Performance Criteria	
ME02.1 <i>IR 33</i>	Building occupants can easily open the doors in the direction of travel to a protected path, safe path, or a safe place (except as permitted by the Building Code).
ME02.2 <i>IR 34</i>	When the building is occupied the locking devices on escape doors are clearly visible, located in a convenient position on the doors, operate easily without a key and no other device on the doors prevents safe escape.
ME02.3 <i>IR 34</i>	Where people are held under restraint, the alternative locking methods are safe and reliable.

ME03	Escape Route – internal & external obstructions
POS	Internal and external escape routes are not obstructed and will provide building occupants with the opportunity to escape the effects of a fire and proceed to a safe place.

Method of Verification

Process	All internal and external escape routes are to be physically viewed.
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Performance Criteria	
ME03.1 IR 35	No obstructions are present that would impede building occupants from escaping to a safe place.

ME04	Escape Route - fire & smoke doors
POS	Doors will mitigate fire and smoke exposure and will provide the building occupants safe time to escape the effects of a fire to a safe place

Method of Verification

Process	All fire & smoke doors are to be physically viewed and operated
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Performance Criteria	
ME04.1 IR 36	Fire and smoke doors operate correctly, have approved hold opens devices if required), have tags, signs, and the clearances are within safe performance criteria.
ME04.2 IR 37	Smoke doors will ensure that smoke separation will continue to perform as an effective barrier when exposed to fire or smoke for a short period during fire development

ME05	Escape Route - emergency exit signs
POS	Escape routes to a safe place are easily identified

Method of Verification

Process	All escape routes are to be physically viewed
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ME05.1 IR 38	A building occupant unfamiliar with the layout of the escape routes would have no difficulty identifying which routes to follow to escape the effects of a fire and to proceed to a safe place.
ME05.2 IR 39	Signs are clearly visible and readily understandable under all conditions of foreseeable use.

ME06	Escape Route – Artificial/Natural & Emergency Lighting
POS	Escape routes are adequately illuminated in the event of a fire evacuation.

Method of Verification

Process	<ol style="list-style-type: none"> 1. All escape routes are to be physically viewed. 2. Review compliance schedule and/or view emergency lighting (if provided) in operating mode. (Test by switching off the normal power or test switch)
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Performance Criteria	
ME06.1	Compliance schedule is up to date with required testing requirements and/or, all emergency lighting physically viewed in the operating mode.
ME06.2 IR 40	Artificial/natural or Emergency lighting is appropriate for the building type and occupancy activity and will assist building occupants in a fire emergency

ME07	Escape Route - floor areas, stairs, slip & trip hazards
POS	Escape route floors and stairs surfaces provide adequate slip and trip protection

Method of Verification

Process	All escape routes are to be physically viewed
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Performance Criteria	
ME07.1	Escape route floors and stairs do not present a significant slip hazard in all weather and working conditions.
ME07.2 IR 41	Escape routes floors, stairs and ground areas around final exit doors do not present significant trip hazards

ME08	Escape Route – flammable material & storage hazards
POS	Escape routes do not have flammable material stored within or near the escape routes and safe paths are safe from potential fire hazards

Method of Verification

Process	All escape routes are to be physically viewed.
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Performance Criteria	
ME08.1 IR 42	Escape routes are safe from the potential hazard of flammable liquids or associated material. If stored, are stored in non-combustible containers with lids.
ME08.2 IR 42	Safe paths (stairwells and passageways) are safe from potential fire hazards of stored combustible material

ME09	Escape Route - surface finishes & suspended flexible fabrics
POS	Internal surface finishes and suspended flexible fabrics within the escape routes and places of assembly do not pose a significant fire and smoke hazard.

Method of Verification

Process	<p>1. All escape routes and areas where more than 100 occupants can gather or assemble together are to be physically viewed.</p> <p>2. For buildings that have a significant life risk potential such as places of assembly obtain a copy of the documentation that establishes compliance with the Building Code (in respect to surface finishes & suspended flexible fabrics).</p>
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Performance Criteria	
ME09.1 IR 43	There are no highly combustible interior finish surfaces or decorations that would pose a hazard to occupants from escaping the effects of a developing fire and proceeding to a safe place.

ME10	Escape Route - fire rated separation systems
POS	Fire rated separation systems (where required) will provide building occupants with adequate time to escape the effects of a fire.

Method of Verification

Process	<p>1. All escape routes are to be physically viewed.</p> <p>2. All buildings - physically check all accessible areas for adequate fire separations between fire cells. e.g. between floors, protected or safe paths, inside accessible ducts, where there are penetrations of services between fire cells and in ceiling spaces if applicable.</p> <p>Note: Some ducts may have fire separation at each floor or may be a fire cell of their own right and travel the full height or width of the building.</p>
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Performance Criteria	
ME10.1 IR 44	Occupants in other fire cells not affected by direct fire will be safeguarded from the effects of a fire and smoke while proceeding to a safe place

Performance Criteria	
ME10.1 IR 44	Occupants in other fire cells not affected by direct fire will be safeguarded from the effects of a fire and smoke while proceeding to a safe place

Method of Verification

Process	<p>1. Physically establish that the fire alarm sounds throughout the building and/or confirm with the wardens (At trial evacuations only).</p> <p>2. For buildings that have a significant life risk potential such as places of assembly, obtain a copy of the code compliance certificate that establishes compliance with the Building Code (in respect to the fire alarm systems).</p>
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Performance Criteria

ME11.1 IR 45	Occupants are provided with a warning system that will adequately warn of the existence of a fire and allow sufficient time for occupants to escape the effects of a fire/smoke and proceed to a safe place.
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ME12	Sprinkler System
POS	Sprinkler system (where required) will provide the building occupants with adequate and reliable protection to facilitate internal evacuation or provide longer evacuation times that allow occupants to proceed to a safe place.

Method of Verification

Process	<p>1. During physical assessment of the building - note any areas that appear not to have sufficient sprinkler head coverage, sprinkler heads covered/obstructed or high stacking. 2. Buildings that have a significant life risk potential, acquire a copy of the certificate of compliance that establishes current compliance with NZS 4541 or NZ4515 or other recognised standard. e.g. halls, nightclubs, places of assembly, rest homes etc.</p>
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Performance Criteria

ME12.1 IR 46	Sprinkler heads are not covered or obstructed, and all areas have sprinkler coverage or appropriate fire separation of non-sprinkler areas.
ME12.2 IR 47	High stacking areas have adequate clearance below sprinkler heads.

ME13	Building Warrant of Fitness
POS	Building (where required) has a compliance schedule in place, and it appears that all the means of escape provisions have been carried out, including publicly displaying the current copy of the BWOF.

Method of Verification

Process	<ol style="list-style-type: none"> 1. Physical view current publicly displayed BWOF. 2. Based on the inspection outcome - if a number of non-complying issues are identified, view the compliance schedule records for compliance. 3. Buildings that have a significant life risk potential, view the compliance schedule records for compliance. e.g. halls, nightclubs, places of assembly, rest homes
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Performance Criteria	
ME13.1 <i>IR 48</i>	Publicly displayed BWOF (or statement of fitness) has not expired.
ME13.2	Means of escape elements met POS requirements - no review of the compliance schedule records was required.
ME13.3	Compliance schedule records indicate that the provisions of the compliance schedule have been carried out.

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Fire Evacuation Information

FEI01	Fire Action Notices & Locations
POS	Evacuation procedure information (fire action notice) and locations within the building, provides building occupants with sufficient information to understand and facilitate the safe, prompt and efficient evacuation of the building in the event of a fire.

Method of Verification

Process	Physically establish that information has been provided and is “readily available” to all building occupants.
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Performance Criteria

FEI01.1 <i>IR 49</i>	Information (notices) and locations within the building are consistent with the proposed or approved evacuation scheme (where required) or meets the requirements of regulation 5 of the regulations.
FEI01.2	Considering the nature and type of the occupancy activity, the location and information provided to the building occupants is appropriate.

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Building Fire Safety

BFS01	Use of Appliances - electrical
POS	Electrical equipment and appliances are being managed with reasonable fire prevention precautions in place and the general working condition appears to be in safe working order.

Method of Verification

Process	Physically examine (within the limitations of the IRG) equipment and appliances.
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Performance Criteria	
BFS01.1 IR 50	Electrical equipment and appliances do not have any obvious faults that would cause a fire.
BFS01.2 IR 51	Safe working practices appear to be in-place with no obvious potential fire risk.

BFS02	Use of Appliances - gas
POS	Gas equipment and appliances are being managed with reasonable fire prevention precautions and the general working condition appears to be in safe working order.

Method of Verification

Process	Physically examine (within the limitations of the IRG) equipment and appliances.
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Performance Criteria	
BFS02.1 IR 52	Gas equipment and appliances do not have any obvious faults that would cause a fire.
BFS02.2 IR 53	Safe working practices appear to be in-place with no obvious potential fire risk.

BFS03	Use of Appliances - flammable liquid fuel
POS	Flammable liquid equipment and appliances are being managed with reasonable fire prevention precautions and the general working condition appears to be in safe working order.

Method of Verification

Process	Physically examine (within the limitations of the IRG) equipment and appliances.
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Performance Criteria	
BFS03.1 <i>IR 54</i>	Flammable liquid fuel equipment and appliances do not have any obvious faults that would cause a fire.
BFS03.2 <i>IR 55</i>	Safe working practices appear to be in-place with no obvious potential fire risk

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BFS04	Control of Open Flame
POS	Appliances are being managed with reasonable fire prevention precautions in place and the general working condition appears to be in safe working order.

Method of Verification

Process	Physically examine (within the limitations of the IRG) equipment and appliances.
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BFS04.1 <i>IR 56</i>	Open flame appliances do not have any obvious faults that would cause a fire.
BFS04.2 <i>IR 57</i>	Safe working practices appear to be in-place with no obvious potential fire risk.

BFS05	Packing and Unpacking of Goods
POS	Packing and unpacking of goods are managed with appropriate fire prevention precautions in place and the building occupants are protected from the associated risk of ignition that could arise from the packing and unpacking process.

Method of Verification

Process	Physically check areas where operations (does not apply to small-scale operations) involving the packing and unpacking of goods packed in straw, paper wood-wool, or other flammable material (polystyrene beads).
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Performance Criteria	
BFS05.1 <i>IR 58</i>	Areas for packing or unpacking do not have any obvious risks that would cause a fire or fire spread endangering occupants.
BFS05.2 <i>IR 59</i>	Safe working practices appear to be in-place with no obvious potential fire risk.

BFS06	External Fire Risk
POS	Storage of combustible material on external walls of the building is located or protected in such a position that a fire could not spread internally

Method of Verification

Process	Physically view external walls.
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Performance Criteria	
BFS06.1	External storage of combustible material does not present an opportunity for unlawful ignition that would pose a property risk.
BFS06.2	Incinerators or similar apparatus do not pose a potential fire risk under all conditions of foreseeable use (i.e. wind).

BFS07	Storage of Goods - material inside and outside
POS	Storage of goods and material inside and outside building(s) is located or protected in such a position or in such a way that any fire could not spread to any nearby building or to road or other public place.

Method of Verification

Process	Physically view storage areas that have material that is likely to burn if lit.
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Performance Criteria	
BFS07.1 <i>IR 60</i>	Material is located or protected in such a position or in such a way that any fire in the stored material cannot spread to any nearby building or to any road or other public place.
BFS07.2 <i>IR 61</i>	Safe working practices appear to be in-place with no obvious potential fire risk to nearby buildings, road or public place.

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Fire fighting Equipment

FE01	Hose reels (buildings that have hose reels)
POS	Adequate hose reels in place that are operationally ready and in service.

Method of Verification

Process	Physically check (within the limitations of the technical notes) all hose reels
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Performance Criteria	
FE01.1 IR 62	An occupant on discovery of a small fire would be able to locate, in an appropriate time frame, and operate a hose reel without foreseeable difficulties.

FE02	Fire Extinguishers
POS	Adequate and appropriate fire extinguishers in place that are operationally ready and have met servicing requirements

Method of Verification

Process	Physically check (within the limitations of the Information Reference Guide) all fire extinguishers.
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Performance Criteria	
FE02.1 IR 63	An occupant on discovery of a small fire would be able to locate and operate a fire extinguisher without foreseeable difficulties.
FE02.2 IR 63	Fire extinguishers are adequately located throughout the building in terms of associated risk requirements.