



Generic Fire Equipment Testing

Information Brief

32 Punch St, Artarmon NSW 2064

service@civilfire.com.au | www.civilfire.com.au | 02 9906 1626

CONTENTS

What do we do?.....	3
Unit Fire Doors.....	4
Unit Smoke Alarms	6
Emergency Lights & Exit Signs	7
Portable Fire Extinguishers	8
Portable Fire Blankets.....	9
Portable Fire Hose Reels	10
Passive Fire Protection.....	11
Paths of travel.....	12

WHAT DO WE DO?

Civil Fire inspect, test, maintain and service the fire safety equipment in your building for the purpose of providing an Annual Fire Safety Statement (AFSS).

For buildings built after 1988, the AFSS is due once per year to council, and it must be signed by an Accredited Practitioner (Fire Safety). Not just anyone can sign off on the AFSS. More information and a list of Accredited Practitioners can be found here: https://connect.fpaa.com.au/Shared_Content/FPAS_Register/FPAS_Register_Search.aspx

The AFSS is put together based on the fire safety schedule, which shows the fire safety equipment in the building and the specifications to which they need to be maintained. These specifications are found in the Building Code of Australia (BCA) and Australian Standards. The fire safety schedule tells us which BCA clauses and Australian Standards the equipment needs to be able to perform to.

The year your building was constructed, the height of the building and the floor area are a few of *several* things that might impact the fire safety requirements in your building.

Fire contractors don't make up how often equipment needs to be tested. Testing frequencies are laid out in the Australian Standard for the routine inspection and maintenance of fire safety equipment – AS1851. The testing frequencies required under AS1851 for each equipment type has been listed in the pages that follow.

This information brief has been designed to provide generic information to strata and residents about testing requirements for some common fire safety measures. Fire compliance is extremely complicated and technical, so the following information should be taken as general in nature. It may not apply to your building, so please contact us if you need further clarification.

Fire Safety Statement
Part 9 of the Environmental Planning and Assessment Regulation 2000

Please note:
Information to assist building owners to complete each section of the statement is provided on pages 3, 4 and 5.

Section 1: Type of statement
This is (mark applicable box) an annual fire safety statement (complete the declaration at Section 8 of this form) a supplementary fire safety statement (complete the declaration at Section 9 of this form)

Section 2: Description of the building or part of the building
This statement applies to: the whole building part of the building
Address: XXX
Lot No. (if known): XXX DP/SP (if known): XXX Building name (if applicable): XXX
Provide a brief description of the building or part (building use, number of storeys, construction type etc): XXX

Section 3: Name and address of the owner(s) of the building or part of the building
Name: XXX
Address: XXX

Section 4: Fire safety measures

Fire safety measure	Minimum standard of performance	Date(s) assessed

* See notes on page 4 about how to correctly identify an accredited practitioner (fire safety) (APFFS).

Section 5: Inspection of fire exits and paths of travel to fire exits (Part 9 Division 7)
Part of the building inspected: XXX Date(s) inspected: XXX
* See notes on page 4 about how to correctly identify an accredited practitioner (fire safety) (APFFS).

Section 6: Name and contact details of competent fire safety practitioners (APFFS)

Full name	Phone	Email	Accreditation No. *	Signature

* Where applicable - see notes on page 4 for further information.

Section 7: Name and contact details of the person issuing this statement
Full name: _____
Organisation (if applicable): _____ Title/Position (if applicable): _____
Phone: _____ Email: _____
* The person issuing the statement must not be a APFFS listed in section 6.

Section 8: Annual fire safety statement declaration
I, _____ (insert full name) being the: owner owner's agent declare that:
a) each essential fire safety measure specified in this statement has been assessed by an accredited practitioner (fire safety) and was found, when it was assessed, to be capable of performing:
i. in the case of an essential fire safety measure applicable by virtue of a fire safety schedule, to a standard no less than that specified in the schedule; or
ii. in the case of an essential fire safety measure applicable otherwise than by virtue of a fire safety schedule, to a standard no less than that to which the measure was originally designed and implemented; and
b) the building has been inspected by an accredited practitioner (fire safety) and was found, when it was inspected, to be in a condition that did not disclose any grounds for a prosecution under Division 7 of Part 9 of the Regulation.
Owner/Agent Signature: _____ Date issued: _____

Section 9: Supplementary fire safety statement declaration
I, _____ (insert full name) being the: owner owner's agent declare that each critical fire safety measure specified in the statement has been assessed by an accredited practitioner (fire safety) and was found, when it was assessed, to be capable of performing to at least the standard required by the current fire safety schedule for the building for which this statement is issued.
Owner/Agent Signature: _____ Date issued: _____

Note: A current fire safety schedule for the building must be attached to the statement in accordance with the Regulation.

Version 3.1 | Effective from 1 March 2021 | NSW Department of Planning, Industry and Environment

UNIT FIRE DOORS

Your unit entry doorset is an essential fire safety measure. The doorset consists of the fire door leaf, door hardware, the door frame and the fixing to the surrounding fire wall. In general terms, the purpose of the doorset is to stop a fire inside your unit from spreading throughout the rest of the building.

Under the legislation, your doorset is required to be inspected once a year to verify it meets the performance requirements of AS1905.1 – 2005 and the manufacturers approved specifications.

So what is actually being checked? Below is a *general* guide only.

AS1905.1 section 2.1.2 & 2.1.3

Fire doors must automatically return to the closed AND latched position from the fully open position, and from any intermediate position.

This is usually achieved by installing an automatic door closer.

The closer must be firmly attached, and should not be leaking hydraulic fluid.

AS1905.1 section 5.5.3

In the closed position, the gap between the leaf and the head, and between the leaf and each stile should not exceed 3mm*.

Unit numbers are acceptable.

Peepholes are only compliant if they have been approved for use with that particular type of fire door. < 10mm penetration & metal construction is often acceptable

The handle should generally be between 900mm and 1100mm above the finished floor

AS1905.1 Section 2.1.3.2

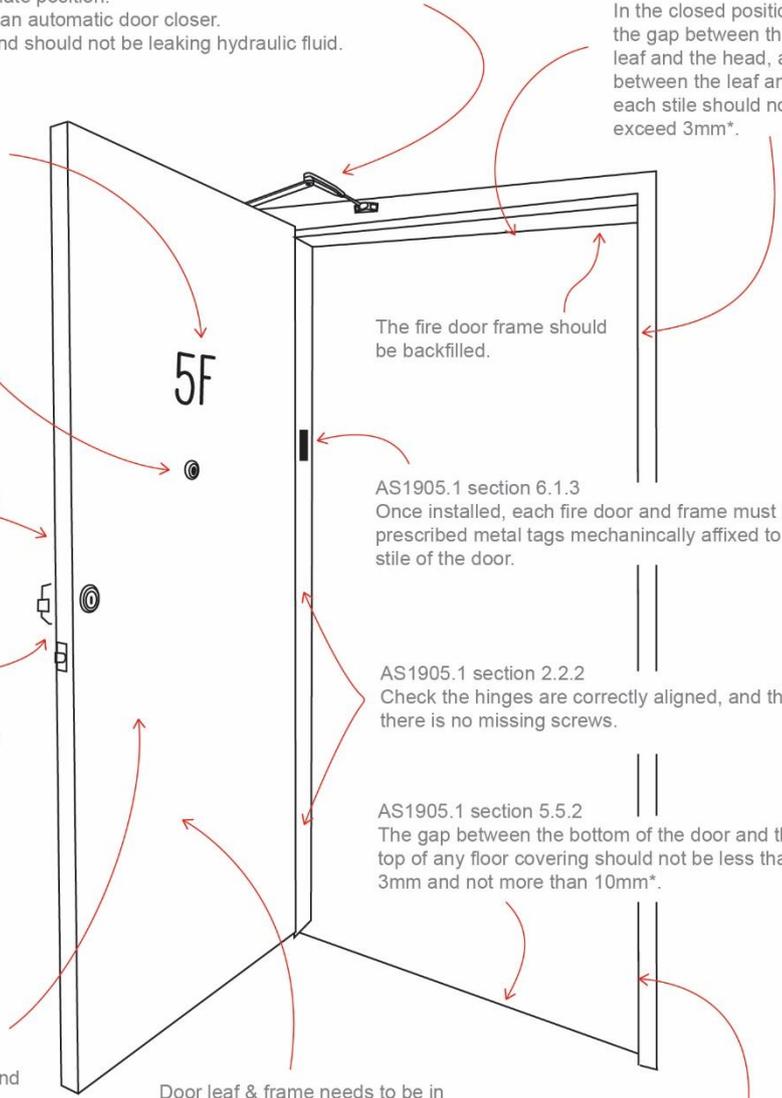
Any bolt or other hardware that may prohibit a door from self-latching should not be incorporated on the fire door.

This includes:

- Slide bolts
- Dead locks/bots
- Hold open devices
- Most electronic locks & latches

Check the door is hung the right way up.

Fire doors usually have reinforcing metal plates where the hinges, lock and door closer are meant to be installed. Doors that are hung upside down are prone to damage & will need to be replaced.



The fire door frame should be backfilled.

AS1905.1 section 6.1.3

Once installed, each fire door and frame must have prescribed metal tags mechanically affixed to the stile of the door.

AS1905.1 section 2.2.2

Check the hinges are correctly aligned, and that there is no missing screws.

AS1905.1 section 5.5.2

The gap between the bottom of the door and the top of any floor covering should not be less than 3mm and not more than 10mm*.

Door leaf & frame needs to be in good condition. No excessive damage or penetrations.

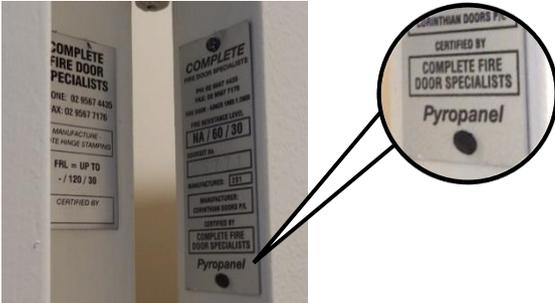
In some buildings, fire doors may be required to have smoke seals fitted to the perimeter of the door.

*Some fire door manufacturers have received approval for larger gaps.

DOOR HARDWARE

'Hardware' is a broad term used to group all items that are fitted or related to doors and includes hinges, pivots, sliding door track assemblies, locks, latches, snibs, panic exit devices, closers, pull handles, sequence selectors, bolts, reed switches, buffers, power transfers, hold-open devices, any part of an automatic closing device that is attached to the doorset, and all (door) furniture.

Any hardware that is installed on the door must be tested & approved for use with that particular brand of fire door. The brand is shown on the door tag.



In this example, Pyropanel doors are installed. Therefore, only hardware that has been tested and approved in accordance with AS1530.4 can be installed on Pyropanel doors.

Testing doorset prototypes with hardware variations is incredibly expensive. As a result, there is usually a *limited list* of approved hardware for each door brand. Some common items of hardware are below.

	<p>Security viewer / peephole Approved Can be installed for extra security</p>		<p>001/002 Deadlatch Approved A deadlatch enables the door to self-latch.</p>
	<p>Door closer Approved This is a mandatory item and should NOT be removed from your fire door.</p>		<p>Mortise deadlatch Approved A deadlatch enables the door to self-latch.</p>
	<p>Deadbolt DO NOT INSTALL The tongue does not automatically retract, therefore the door may not self-latch.</p>		<p>Door guard DO NOT INSTALL Has the potential to stop the door from self-latching</p>
	<p>Electronic Locks DO NOT INSTALL The vast majority of door manufacturers DO NOT have approval for electronic locks*. <i>*Lockwood Cortex® Digital Door Lock has recently been approved for use on the 3 major fire door brands.</i></p>		<p>Hold-open devices (any type) DO NOT INSTALL Has the potential to stop the door from closing.</p>



Do NOT install any additional hardware to your fire door unless you are sure it has been approved by the manufacturer.
You should avoid modifying your fire door in any way.
Your fire doorset is an Essential Fire Safety Measure and does not belong to you.

UNIT SMOKE ALARMS

A working smoke alarm is the number one piece of life-saving equipment in the event of a fire. A smoke alarm's primary function is to alert you in the event of a fire, even if you are asleep.

Under the legislation, your smoke alarm is required to be inspected once a year to verify it meets the performance requirements of the Environmental Planning & Assessment Regulation 2000 (EP&A Reg), the Building Code of Australia (BCA), AS3786 and the manufacturers approved specifications.

What type of smoke alarm can I install?

There are a few types of smoke alarms that we see in residential strata buildings. Your Fire Safety Schedule will tell you what kind of smoke alarm you need to install.

Mains powered (240v):

Generally speaking, buildings that were constructed after 1995 will be certified to BCA Spec E2.2a & AS3786, which means that the smoke alarm **must** be connected to 240v mains power.

Compliant options for 240v smoke alarms are:



240v Smoke Alarm with 9v Backup Battery



240v Smoke Alarm with 10-year Lithium Ion Backup Battery

240v smoke alarms will always have a green LED light showing a connection to mains power.

Battery-Operated:

Buildings that were constructed before 1995 may only be required to be certified to AS3786, which means that a battery-operated smoke alarm is sufficient.

Options for compliant battery operated smoke alarms are:



9v Battery Operated Smoke alarm



10-year Lithium Ion Battery Operated Smoke Alarm

Changing the 9v battery in a smoke alarm is the responsibility of the owner/landlord and it is recommended by Fire & Rescue NSW that it is changed once per year.

Civil Fire only quote to install 10-year lithium ion battery smoke alarms, whether mains powered or battery-operated. Though these smoke alarms cost a little bit more, they are a high quality, long lasting and reliable smoke alarms that remove the need for residents to change their own smoke alarm batteries for 10 years.

Where does the smoke alarm need to be installed?

According to the EP&A Reg (clause 186A), in residential buildings, a smoke alarm must be installed in every storey containing bedrooms in the hallway associated with that bedroom. If there is no hallway, the alarm should be installed between the bedroom and the remainder of the dwelling. If there is no bedroom on the storey, then a smoke alarm is still required on that storey in the path of travel to an exit. Some dwellings will require multiple smoke alarms.



How are smoke alarms tested?

For a smoke alarm to be endorsed on the AFSS, the legislation requires that it be sprayed with smoke or an artificial smoke. The sounder must operate at a decibel level that would wake a sleeping person from their bed. If the alarm is required to be mains powered, the green LED light connection will be checked. The location of the smoke alarm will also be inspected as per the information above.

The manufacture date of the smoke alarm will be checked – it is *recommended* that smoke alarms over 10 years old are replaced. This is not a defect for the purpose of the AFSS, nor is the date of the last battery change.

EMERGENCY LIGHTS & EXIT SIGNS

Emergency lights & exit signs need to be tested every 6 months.

Common emergency lights are:



Batten Light

Oyster Light

Spitfire

Emergency lights can resemble non-emergency lights. The thing that can distinguish an emergency light is the red test button:



Common exit lights are:



Boxtype

QuickFit

Edgelight

These lights also have the red test button.

When the mains power is on, all of these lights will be illuminated like normal.

In order for the lights to be endorsed on the AFSS, they need to be able to run on their in-built back up battery for 90 minutes once the mains power is cut in accordance with AS2293.1 section 2.2.2. In an emergency, this would allow residents 90 minutes to find an exit & evacuate safely. Fire stairs generally have no windows and can get very dark!

To complete the lighting test, Civil Fire will cut the power to the emergency lights (usually using a dedicated test point/breaker) and monitor them for the full 90 minutes. If any light is not illuminated by the end of the 90 minutes, then it is not functioning as it should and it needs to be replaced.

Lifespan of exit & emergency lights:

Exit and emergency lights have a shorter lifespan when compared to non-emergency lights. It is common to see 15% of emergency & exit lights fail at each inspection.

This is primarily because the circuitry of emergency lights is more complex than non-emergency lights as the fitting is continually charging the battery. An exit and emergency light is usually *always on* - like any other bit of technology you own, the components will eventually fail from overuse.

Factors like quality of manufacture & exposure to environment will impact on the lifespan of an emergency light, however on average, a quality fitting should last for between 5 and 8 years. Civil Fire only use quality LED fittings.

Emergency lights in your building should be treated as a maintenance item like painting, or gardening.

Can I just replace the battery?

Civil Fire no longer quote to replace batteries in emergency & exit light fittings. This is due to:

- **Cost** – replacing the battery is labour intensive, as all wiring needs to be soldered by a licenced electrician. In some cases, the cost to replace the battery is not far off the cost to change the whole light fitting
- **Non replaceable batteries** – many of the newer LED lights are being installed with a non-replaceable lithium ion battery
- **Warranty** – we do not offer warranty on battery replacements. We are not able to guarantee that this external component will operate as it should, much like the battery in your TV remote.

We offer a 12 month warranty on all light fitting replacements.



Do I have to use Civil Fire?

No, you don't have to use Civil Fire for your emergency exit light repairs. If you do use an alternate contractor, it is up to the building to ensure that they are an Accredited Practitioner (Fire Safety) under the FPA. They should be able to endorse their repairs themselves on the AFSS, otherwise Civil Fire will need to re-inspect the repairs (for an additional fee) before the AFSS can be issued. More information and a list of Accredited Practitioners can be found here:

https://connect.fpaa.com.au/Shared_Content/FPAS_Register/FPAS_Register_Search.aspx

PORTABLE FIRE EXTINGUISHERS

Fire Extinguishers need to be tested every six-months. They are designed to be used by residents of a building in the event of a small fire. If the fire exceeds the size of a small garbage bin, the attempt to put out the fire with the extinguisher should be abandoned and the building should be evacuated.

Fire extinguishers are generally endorsed on the AFSS to BCA E1.6 & AS2444.

Which extinguisher?

There are different fire extinguishers for different types of fires.

Type of Extinguisher →	Dry Powder	Water	Foam	CO ₂	Wet Chemical
Type of Fire ↓					
Combustible Materials	YES	YES	YES	NO	YES
Flammable Liquids	YES	NO	YES	YES	NO
Flammable Gases	YES	NO	NO	NO	NO
Flammable Metals	YES	NO	NO	NO	NO
Electrical Equipment	YES	NO	NO	YES	NO
Deep Fat Fryers	NO	NO	NO	NO	YES

As you can see, dry powder extinguishers, such as AB(E) extinguishers, can be used on most fires.

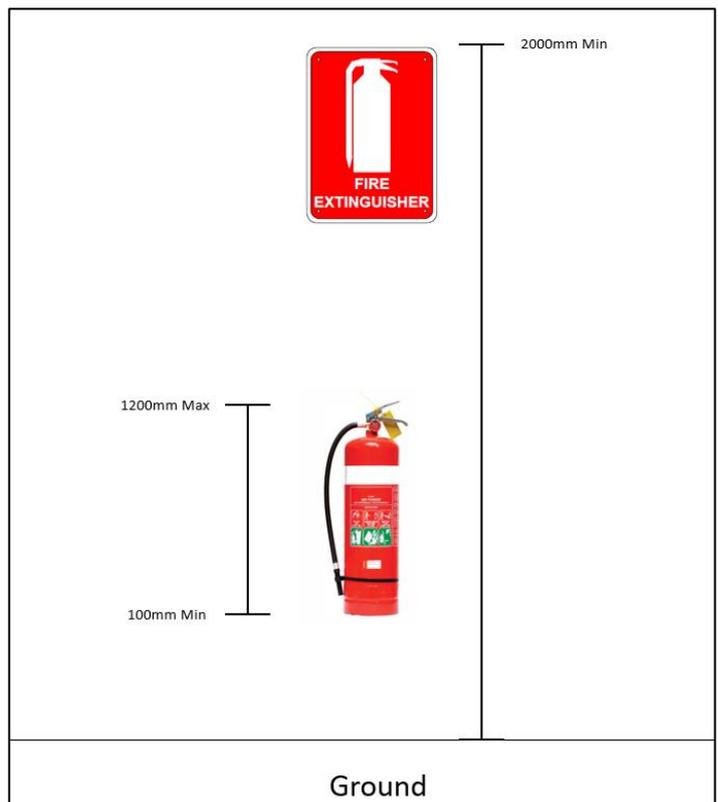
The BCA tells us that for residential buildings, fire extinguishers must be installed no more than 10m away from the front entry door of a sole-occupancy unit. They must be of AB(E) type and at least 2.5kg.

A CO₂ extinguisher is also required to cover the main switch room, and a wet chemical extinguisher may be required if there is a restaurant in your building with a deep fryer.

How are fire extinguishers tested?

Along with making sure the correct extinguisher type is installed, AS2444 tells us that extinguishers must be installed in conspicuous and readily accessible locations, preferably in the path of travel to an exit. Fire extinguishers may be moved if they do not meet this requirement.

According to AS2444, fire extinguishers must be mounted at least 100mm from the ground, with a location sign installed at least 2000mm above the ground. This is so that the extinguisher location can be easily identified from a great distance. A mounting bracket specific to that extinguisher must be used so that the extinguisher sits flush against the wall. AS2444 also specifies what the location sign should look like, custom signage is not permitted.



The extinguisher will be weighed and the gauge will be checked to ensure the material inside has not evaporated or lost its charge. An empty extinguisher with no pressure would be no good to you in a fire!

Fire extinguishers must also be pressure tested and recharged every 5 years. The last pressure test date can be found on a yellow collar around the neck of the extinguisher, or it may be stamped on the base of the extinguisher (e.g. this one was last pressure tested in October 2017):



If the date shown on the extinguisher is more than 5 years ago, pressure testing and recharge is now due. This is a defect for the purpose of the AFSS. Civil Fire will take the extinguisher due for pressure testing and recharge away and replace it with a fully charged one of the same type and size.

Fire extinguishers must also have a yellow maintenance tag affixed to the handle that is stamped at every inspection.

PORTABLE FIRE BLANKETS

It is not common for it to be a requirement to have fire blankets installed inside residential units. If your building has a restaurant or commercial suite in it, the restaurant or commercial suite may be required to have a fire blanket installed.

If fire blankets are required, they will be installed in accordance with AS2444 and they must be tested annually.

AS2444 tells us that the fire blanket can be used to extinguish fires involving cooking oils and fats. Fire blankets may also be used to smother a fire on clothes being worn by a person.

If a blanket may be used to extinguish clothes on a person, the size must be 1.2m x 1.8m or 1.8m x 1.8m. Smaller blankets may be considered in other circumstances.

Fire blankets must be located in a conspicuous and readily accessible location, but not in a position where it could present a hazard to a potential user (e.g. above a deep fryer). Fire blankets should be installed along normal paths of travel and near exits.

If a blanket is installed in a non-domestic environment, then its location must be identified by a sign installed adjacent to the fire blanket. AS2444 tells us what the sign must look like, custom signage is not permitted. It must be visible to anyone approaching the blanket. Fire blankets must be mounted by their containers and have sufficient room around them to allow the blanket to be removed quickly.

Fire blankets installed in a domestic setting do not require a location sign.



PORTABLE FIRE HOSE REELS

Fire hose reels are for use by residents in the building to extinguish a small fire. Fire hose reels are not to be used for domestic use, and the hose reel must never be obstructed by materials.

Newer residential buildings are not required to have fire hose reels installed on the residential levels (built after 2014). Offices are not required to have fire hose reels if they are built after 2019.

Older residential buildings, shops & carparks must have a fire hose reel system installed if there are internal hydrants installed or the fire compartments have a floor area of more than 500m².

Fire hose reels are usually certified to BCA E1.4 & AS2441 on the AFSS, and they must be inspected every 6 months.

AS2441 Section 10.4 – location sign shall be provided above or adjacent the hose reel and shall be clearly visible to persons approaching the hose reel (mounted at least 2m above the ground)



AS2441 Figure 10.1 – location sign shall look like this, no custom signage permitted

AS2441 Section 6 – water supply needs to be sufficient to enable hose reel to meet minimum demand (table 6.1)

TABLE 6.1
MINIMUM DISCHARGE RATES AND SUPPLY PIPE SIZES

Nominal hose diameter mm	Minimum discharge at 220 ±10 kPa inlet pressure L/s	Minimum supply pipe size DN
19	0.33	25
25	0.41	25

AS2441 Section 10.2 – all points of the floor should be no further than 4m from the end of the hose, max hose length 36m

AS2441 Section 11 – at least 100mm clearance around the entire hose reel

A pump may be required if water flow & pressure is insufficient

BCA E1.4 – hose reels should be located next to an internal hydrant & within 4m of an exit. Fire hose reels must be located so that the hose does not need to pass through fire or smoke doors

AS2441 Section 11 – Fire hose reel spindle must be mounted at least 1400mm from the ground (max 2400mm).

Fire hose reel stop valve must be mounted 900mm-1100mm from the ground

AS2441 Section 10.1 – if hose reel is exposed to the elements, it shall be protected by a cabinet or cover

AS2441 Section 10.4.4 – if hose reel is installed in a cabinet, the cabinet must be marked with the words FIRE HOSE REEL in 50mm text



AS2441 Section 10.1 – hose reel must be installed in a readily accessible location along the normal paths of travel to an exit.

Hose reels may not be located:

- In positions that could present a hazard to the user
- In fire isolated stairs

PASSIVE FIRE PROTECTION

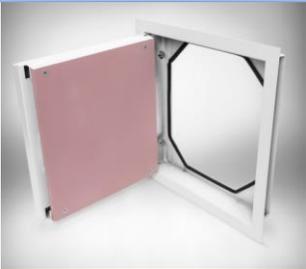
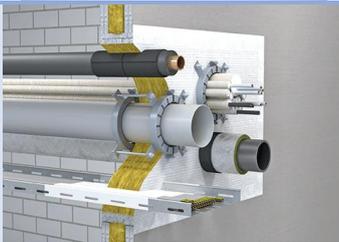
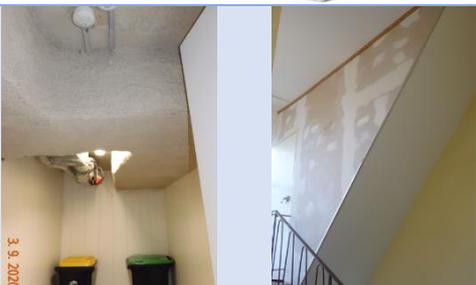
Passive fire protection is a highly specialised area.

Buildings are generally built with fire rated elements such as the walls, floors, and ceilings. These fire rated elements are designed to prevent the spread of fire from one fire compartment to another (i.e. from one unit to another or from a unit into the ceiling space above).

If a fire rated element has a hole put through it, for example by a plumbing pipe, then that pipe needs to be protected. If you install a downlight in a fire rated ceiling, then the downlight will need a special fire rated cover to ensure the fire rating of the whole ceiling is maintained. The protection of the openings in a fire rated element are passive measures.

Passive measures are often installed in vents and locations throughout the building that are very hard to find if a schedule of locations is not available. They need to be inspected once per year.

Passive fire measures include (but are not limited to):

<p>Access Panels Fire rated “doorways” into service chutes and cavities.</p>	
<p>Fire Seals Fire rated collars that wrap the pipes/penetrations that run through a fire rated ceiling, floor or wall. These will swell in the event of a fire and close the pipe.</p>	
<p>Fire Dampers Looks like a grate and are usually found inside air conditioning and exhaust vents. In the event of a fire these will swell/close and stop the fire from spreading through the building in the vent.</p>	
<p>Lightweight Construction Any masonry construction that is less than 60mm thick. This may include the plasterboard ceilings and walls in your unit and/or the common area.</p>	

If these measures form part of our service agreement Civil Fire may periodically engage a passive specialist (usually Passive First*) to undertake a performance inspection on our behalf. The cost of this inspection is covered under this agreement. If defects are identified, the building will be responsible for liaising with the passive specialist directly to reach a resolution.

Civil Fire can be requested to project-manage the resolution of passive defects, although a primary contractor surcharge (40% of the value of repairs) will be incurred by the building.

You would be advised to contact an appropriately accredited person before putting any penetrations into a building element, as you may be inadvertently drilling into a passive fire measure.

**Civil Fire not affiliated with Passive First in any way.*

PATHS OF TRAVEL

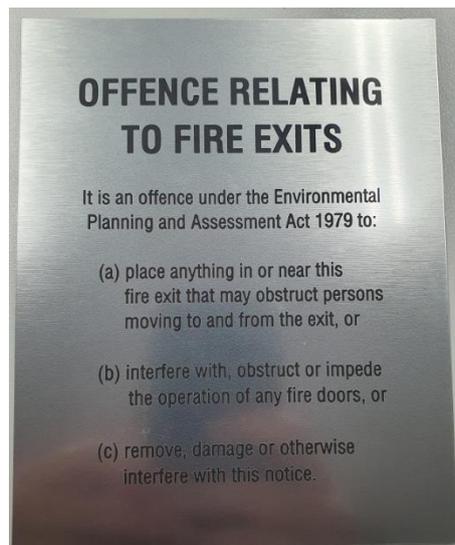
Paths of Travel and Offences relating to Fire Exit notices required under Environmental Planning and Assessment Regulation 2000 (EPAR 2000) Part 9 Division 7 are required to be endorsed on every AFSS under section 5.

Civil Fire are required to inspect the buildings paths of travel once per year and endorse that there are no grounds for prosecution under this regulation.

Despite this, owners are reminded that under the requirements of the Regulation relating to fire exits and paths of travel to fire exits remain the responsibility of the building owners and can be enforced by council and on the spot Penalty Infringement Notices (PINs) may be issued for breaches of these requirements.

The Environmental Planning and Assessment Regulation 2000 (EPAR 2000) Part 9 Division 7 is summarised here:

- The owner of a building must ensure that:
 - any stairway, passageway or ramp serving as or forming part of a building's fire exit, and any path of travel leading to a building's fire exit, is kept clear of anything that may impede the free passage of persons, and
 - the operation of any door that serves as or forms part of a building's fire exit, or is situated in a path of travel leading to a building's fire exit is not interfered with, or otherwise obstructed or impeded, except with lawful excuse.
- A notice required by Clause 183 of the regulation (Offences relating to fire exits) is displayed at all times. You have probably seen these signs around your building, they look like this):



- Access to Fire Equipment is kept clear and unobstructed

