

## Re: 10 Year Smoke Alarm Replacement – Why Wouldn't You?

Below is the case for smoke alarms exceeding 10 years requiring replacement.

The number of laws & standards requiring smoke alarm fitment, performance and maintenance are extensive and summarised below, but with a 56% greater chance of death in a house fire without one; why wouldn't you just replace it?

### **References:**

- Smoke Alarms Act
- Environmental Planning & Assessment Act/ Regulation 2000 (EP&A)
- Building Code of Australia (BCA)
- Residential Tenancies Act
- AS1851-2012
- NSW Fire & Rescue website

### 1. Performance

In accordance with the EP&A Reg. 2000, an Accredited Practitioner (Fire Safety) must inspect & verify that each fire safety measure is achieving the original standard of performance prior to endorsing that measure.

The legislated standard for smoke alarms is AS3786 and/or BCA Spec. E2.2a.

AS3786 specifies performance criteria of each alarm, including sensitivity. This is to ensure it detects smoke within sufficient time to alert occupants to a fire or smoke. When a smoke alarm falls outside of its recommended life of 10 years, the manufacturer can no longer guarantee its performance.

As the accredited practitioner cannot prove the device still meets performance requirements, to endorse; the smoke alarm must be replaced.

AS 3786—1993

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#### SECTION 3 PERFORMANCE REQUIREMENTS

##### 3.1 GENERAL

This Section sets out the performance requirements for smoke alarms.

Specimen pairs of smoke alarms shall be tested in accordance with the schedule given in Table 5.1.

##### 3.2 SENSITIVITY

When tested in accordance with AS 2362.17, the smoke alarm shall comply with the sensitivity range given in Table 3.1. Where the manufacturer's data permits the smoke alarm to be mounted in both the horizontal and the vertical planes, the smoke alarm shall be tested in both planes. Where the smoke alarm has been designed for use when mounted in one plane only, it shall be tested in that plane.

User adjustable units shall be tested for sensitivity at the manufacturers recommended normal settings, as well as at the least sensitive and most sensitive settings.

Average results obtained for all smoke alarms from the four tests described in AS 2362.17 shall be within the specified range.

Individual results obtained for each smoke alarm from each of the four tests described in AS 2362.17 shall be within the specified range.

TABLE 3.1  
SENSITIVITY LEVELS FOR SMOKE ALARMS

Smoke alarm type	Average sensitivity	Individual sensitivity
Photo electric (Percent obscuration per metre (% Obs/m))	3 to 20	3 to 30
Ionization (MIC "A" value)	0.1 to 0.5	0.1 to 0.6



## 2. Maintenance

The standard for fire protection system maintenance is AS1851-2012. It is the standard we are contracted to inspect and test to, and sets the criteria for assessing performance. AS1851-2012, while not directly legislated in NSW is the only standard for 'maintenance' of fire safety systems and the EP&A Regulation 2000 states that the fire system must be 'maintained'. There are common law precedents indicating it must be followed.

As we are contracted to inspect & test to this standard, we are obligated to report AS1851 smoke alarm defects.

Item 2.8 of Table 6.4.2.3 states that smoke alarms which have exceeded their service life are to be replaced.

2.8	Service life	REPLACE smoke alarms and heat alarms where the service life date is exceeded.			
2.9	Survey—Spacing and location	INSPECT each alarm to ensure spacing and location requirements in accordance with the approved design.			

## 3. Residential Tenancies Act:

This Act was updated in 2020 to include smoke alarms in rental properties. It makes the landlord ultimately responsible; however, if the strata scheme is required to maintain the smoke alarms (e.g. due to being listed on the AFSS), they become responsible for the smoke alarm.

This Act requires the replacement of smoke alarms every 10 years within rental properties where not overridden by other fire safety legislation. The Residential Tenancies Act also addresses short term letting—such as Airbnb. As the status of short-term letting is generally unknown, a reasonable person must assume it be possible and report accordingly. Further information located at:

<https://www.fairtrading.nsw.gov.au/housing-and-property/renting/during-a-tenancy/repairs,-maintenance-and-damage>

## 4. NSW Fire & Rescue:

The fire brigade states that smoke alarms must be replaced every 10 years as they reduce in sensitivity & technology has moved on significantly. Read more directly from the fire brigade: <https://www.fire.nsw.gov.au/page.php?id=9218>



## 5. Conclusion:

The legislation, while not direct in every case, *does* require smoke alarms be replaced every 10 years.

*We should also consider that:*

- A Fire contractor or Strata Manager cannot determine if a property is going to be let short-term and therefore by not reporting & replacing, there is a duty of care failure to the landlord.
- Three (3) separate documents DO require replacement at 10 years.
- NSW Fire & Rescue states that 56% of fatal house fires occur where no smoke alarm was fitted.
- NSW Fire & Rescue states that on average, 21 deaths occur in residential fires across NSW every year, and case study research show that one third to a half of those fatalities may have been prevented if the homes had working smoke alarms.
- Research has shown that modern furnishings have reduced the time available to exit a burning property safely from 20+ minutes to under 3 minutes: <https://www.youtube.com/watch?v=ZsPZ3eyIgcg>
- Carbon dioxide & carbon monoxide from a smouldering fire can cause fatalities long before heat becomes a factor.

While it is possible for owners to argue around some wording, it makes no logical sense to argue around the raft of evidence showing that Smoke Alarms are the most important life safety device in a residential property and to be of benefit, they must be performing as designed.

2020 Fire Protection cannot be in control of the specific situations where an exemption is possible; hence, we would be failing in our duty of care, neglecting contracted obligations, placing our clients at risk and going against our values if a position other than replacement of smoke alarms outside their 10 year life was taken.

### ***Our Values:***

- We Care
- Quality Matters
- We Keep People Safe