

Home Smoke Alarms

Selection, Installation and Maintenance

Smoke Alarms are the single most important item you can have in your house to ensure you, and your family survive a fire in your home. These are designed to detect a fire you are unaware of and wake you with enough time to get out safely. But they won't work if they aren't installed right. There are some basic Rules:

Rule 1: Any smoke alarm is a good smoke alarm.

There has been a lot of panicky debate over what sort of smoke alarm is best, and particularly the internet-based debate is pretty alarmist. Basically there are two main sorts of detectors;- ionisation, and photoelectric.



Without getting into the nitty gritty, the best way to differentiate these two is that the ion detector works a bit like a nose, and the photo detector works like an eye. While this is not strictly correct, it is a good way to remember the basic difference. The back of the detector will tell you what is what, but the quick look is that an ionisation detector has a tiny amount of a radioactive substance in it- and you will find the "☠" radioactive symbol on the rear of the detector. Don't panic – the average ion detector is 1/300th as radioactive as a red brick house.

Ion detectors love to detect the "something's burning" smell we all know. They will pick up the thing that makes your nose tingle, but your eye might not see. Fumes from gas fires, toasters, cooking, barbecues are all things which will cause your ion detector to false alarm, so don't put them anywhere near your kitchen, your open fire, or living room if you have a barbecue outside.

Photo detectors "look" for things that look like smoke, things you can see in the air – they will go nuts over steam, mist, aerosols, and even insects inside them, so avoid putting them in the corridor outside the bathroom, near the ensuite, or spraying them with fly spray or air freshener. It is important also to keep them clean as dust will get to them in the end. Photo detectors are generally a little more expensive and a little hungrier on batteries.

Both are available from most hardware stores.

Rule 2: Go "hush-type" every time.

If you can't put your smoke detectors on your burglar alarm system, then go for hush-type detectors. These are the type you will need if you ever raise a building consent, and they stop you from going bananas and beating the alarm off the ceiling with a cricket bat.

The Hush-type alarm gives you a few minutes to deal with whatever set it off by silencing when you push a button on the unit. They will give you two beeps to tell you when they are back on duty again. This means you aren't tempted to disable the unit by pulling out the battery and forgetting about it. This brings us to Rule 3.

Rule 3: They don't work without batteries.



I don't know how many people tell me they have smoke alarms, but haven't got around to getting batteries for them yet. Frankly it makes me want to seize them by the lapels and shake them with vigour. **No battery: no smoke alarm: no wake up in a fire.** Fitting batteries is simple. Each unit will want a battery once a year, and like all fire equipment – you should check it regularly.

Proactively changing batteries also gets rid of the annoying four-o'clock-in-the-morning mystery beep which we have all heard. Smoke alarms will generally give you a single beep when they reach a certain low battery point. Alkaline battery voltages increase in warm weather and decrease in cold weather, so that low voltage point is always reached during the coldest hour of the day, usually early in the morning.

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Now I have never figured out why they only give you one beep. This makes it almost impossible to track down the right one as the one beep every five minutes is determinedly difficult to orientate to (moreso when you are standing in your underwear at 4 a.m. in a cold hallway, having finally figured out what woke you up), and unless you carry a spare 9 volt battery in your dressing gown, you are likely to pull that battery out again, and leave it for some time before it gets fixed.

Short answer – save yourself the trouble and change batteries regularly. The Fire Service suggest daylight savings – not a bad idea, just pick a time and keep to it. It is a good idea to vacuum them at the same time.

Be careful changing batteries, some devices have a clip or bracket that hangs out when the battery is in place, preventing you from putting the alarm back up without a battery. This will have to be put in place before installing the battery. Always test the alarm once you have the new battery in.

Rule 4: Right tool for the job.

Work out where you should put your detectors. The idea is to get you from bed outside safely. Think about your house and how you can get out when there is a fire. The smoke alarm should operate when there is only a little smoke giving you enough time to get out, so discount windows etc unless your first way our is seriously blocked. Place alarms in each bedroom, and in the corridor which leads you outside, and top and bottom of stairs. If you don't cover each bedroom, you need one within 3 metres of the bedroom door.

Place one in your living room also – this is where fires often start at night – but make sure you will be able to hear it asleep in your bed. If you can't, consider interconnected alarms (which make the other smoke alarms sound also) or putting detectors on your burglar alarm system. Interconnected alarms can be 230Volt, but need to be installed by an electrician. Each also still requires a battery which needs replacing each year.

Put detectors on the ceiling at least 300mm from the wall or apex, or high on a wall, but at least 200mm down, This avoids dead-air space which is slow to fill when smoke gathers in a room.

As detailed above, pick the right detector for the space you want to detect, but remember you don't wake to the smell of smoke as the toxic content of smoke (carbon monoxide and hydrogen cyanide) makes you sleep deeper. People without smoke alarms generally wake to the sound of breaking glass – at this point the house will be well alight.

Rule 5: Keep checking.

Testing your smoke alarm takes 5 seconds, and makes sure it still works. Remember these devices are churned off a production line in north Asia, and cost about 15% of the commercial units we have to use in approved systems, so I would trust them like a fox in a hen house. Use the test button, hold it down and wait for the alarm to sound. Hush-type units will give you their two beeps when they restore, which is also useful to know how long you have when the toast has gone away on you again. This again brings me quickly to Rule 6;



Rule 6: Smoke alarms are supposed to prevent you from dying in a house fire, not cause it.

I shudder to think how many times people tell me of testing their detectors by waving burning paper under them. The button works just fine. You are only likely to contaminate the detector chamber at best with a naked flame, at worst you will set something else (or everything else) on fire. If you insist on not using the test facility kindly provided for you, then you can purchase aerosol Test Smoke from us, but at about \$45 a can it is an expensive way of pushing a button.

Rule 7: All good things come to an end.



Smoke alarms will have a use-by date stamped on the back. Most of them will advise you dispose of the detector every 10 years, so you should. Again, these are cheapo units, and won't last forever, so keep an eye on this when you change batteries.

Rule 8: Spread the word.

Keep your friends and family safe by making sure they know all that you have now learned on smoke alarms. Tease them and hassle them if they don't believe you, but make sure they have working smoke alarms. I have even had parents leaving their kids at a sleepover at our house check if we have smoke alarms – Great! You should too.

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