

Fire extinguishers



NZI Risk Solutions™

'Helping our customers stay
in business by reducing risk'



About NZI Risk Solutions

NZI has extensive experience in providing expert risk management advice to help our commercial customers remain in business. We have used this industry knowledge and developed a suite of fact sheets covering risk management issues to help you take control of your business risks.

Fire extinguisher safety

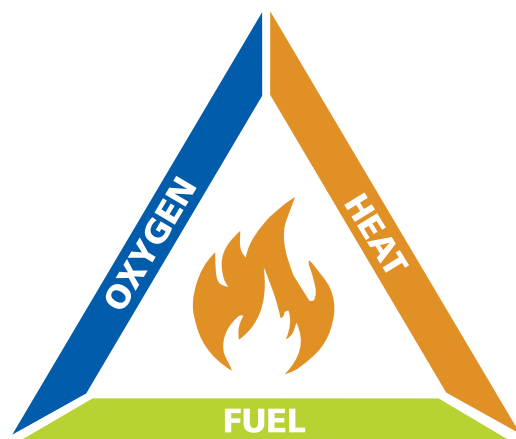
All business premises require first response hand-operated fire extinguishers and/or hose reels. Accidental fires are more likely to occur during working hours due to the greater use of electrical equipment or heating.

Safety measures

Fire extinguishers should be installed by approved contractors, mounted on brackets with clear signage indicating their positions so that they can be easily located in an emergency. They require annual servicing by approved contractors to ensure they remain serviceable and they should also be checked regularly by staff on site.

New Zealand standards

The New Zealand Standard 4503:2005 – Hand Operated Installation and Maintenance of Fire Fighting Equipment is the minimum standard for hand operated fire-fighting equipment in New Zealand. You should ensure that your fire extinguishers are selected, installed and maintained in accordance with this Standard.



'Hand operated fire-fighting equipment includes fire hose reels, portable fire extinguishers and fire blankets. This equipment is necessary as a first defence against small fires, even if the hazard is already covered with fixed protection systems or other fire safety precautions'.

It is emphasised that persons suitably trained in the use of hand operated fire-fighting equipment should attempt to fight a fire only if they can do so safely. However when considering what constitutes an acceptable degree of risk, it should be remembered that even the smallest of fires can present a much more significant hazard if allowed to develop. In addition, it is worth noting that the majority of small fires successfully extinguished by the use of hand operated fire-fighting equipment go largely unreported.'

NZ Standard 4503:2005 – Hand Operated Fire-fighting Equipment.

The fire triangle

The fire triangle or combustion triangle is a simple model for understanding the components of most fires.

The triangle illustrates the three elements a fire needs to ignite: heat, fuel and an oxidizing agent (usually oxygen). A fire naturally occurs when these elements are combined and a fire can be prevented or extinguished by removing any one of the elements in the fire triangle.

For example, covering a fire with a fire blanket removes the 'oxygen' part of the triangle which can extinguish a fire. Without sufficient heat or oxygen, a fire cannot start and continue and without fuel, a fire will be extinguished.

When to use a fire extinguisher

During a fire, there are several things you should do before using an extinguisher:

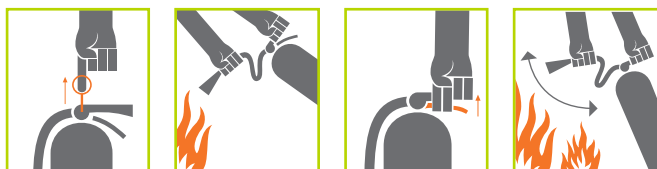
- ✓ Notify the Fire Service before you attempt to extinguish the fire. This can be done by activating the fire alarm system or dialling 111 for emergency services.
- ✓ Clear the area of people before you try to fight the fire. Provide assistance for anyone who needs to be evacuated, just so long as it doesn't put you in danger as well.
- ✓ Understand what is burning before you try to fight the fire. While this can normally be determined, using the wrong type of fire extinguisher on a fire can lead to very hazardous situations.
- ✓ Never put yourself in serious danger to try and fight a fire – leave it to the Fire Service.
- ✓ Avoid inhaling smoke at all costs. Certain types of fire extinguishers can also create hazardous breathing conditions if you are in a small space. Make sure you leave the area if you start to feel light-headed.
- ✓ If the fire starts spreading or the fire extinguisher is proving ineffective, get to a safe place immediately and leave the fire to the professionals.

Following this list of guidelines can help you, your business and staff to survive a potentially dangerous situation.

How to use a fire extinguisher

Instructions for proper use can be found on the fire extinguisher label.

You may also find the following acronym helpful, to remind you and your staff how to use a fire extinguisher:



P	Pull out the pin
A	Aim at the fire's base
S	Squeeze the handle
S	Sweep it from side to side

Using a fire extinguisher in this manner will take care of most small fires and here are a few other factors to consider.

People often attempt to extinguish a fire by aiming at the flames but this can be wasteful. Aiming at the base of the fire is the correct way to extinguish the 'fuel' component of the fire triangle.



You should approach the developing fire cautiously. Sweep the extinguisher from side to side to cover all flames and ensure the fire is fully extinguished.

Once the fire is out, it's important to watch the area for a period of time as some fires can re-ignite – sometimes hours later.

Important fire fighting rules

- ✓ Judge the size of a fire. Only fight a fire if it is small and contained to the immediate area.
- ✓ Look for an escape route. Don't fight a fire unless you are certain you can get out of the area safely.
- ✓ Ensure the fire extinguisher you use is the right kind for the type of fire.
- ✓ Never fight a chemical fire unless you have been specifically trained.
- ✓ Only fight a fire if you are comfortable doing so. Don't panic and don't try to be a hero.

Using the correct fire extinguisher

Care should be taken to use the right type of fire extinguisher on a fire. Using the wrong fire extinguisher on certain fires can sometimes have disastrous results; e.g. **never use water extinguishers on burning liquids or oils or electrical fires.**

The fire extinguisher guide overleaf shows the correct fire extinguishers to use for the different classes of fire. We recommend you display a portable fire extinguisher guide near the fire extinguishers on your premises.

Take control

We hope you find this information useful and we encourage you to manage your business risks by implementing these risk control measures.

To find out more about how you can protect your business, WorkSafe NZ offer free information, tools and resources. Alternatively, your business could subscribe to Standards NZ for more detailed information.

Fire extinguisher guide



	Class A	Class B	Class C	Class D	Class E	Class F
Type of Extinguisher	Wood, paper & plastics	Flammable & combustible liquids	Flammable gasses	For fire involving combustible metals	Electrically energised equipment	Cooking oils & fats

Type of Extinguisher	Class A	Class B	Class C	Class D	Class E	Class F	Comments
Water				Use only special purpose extinguishers and seek expert advice.			Dangerous if used on flammable liquid, live electrical equipment and cooking oil/fat fires.
Wet Chemical							Dangerous if used on energised electrical equipment.
Foam							Dangerous if used on energised electrical equipment.
Dry powder (ABE)							Look carefully at the extinguisher to determine if it is an BE or ABE unit as the capability is different.
Dry powder (BE)							Look carefully at the extinguisher to determine if it is an BE or ABE unit as the capability is different.
Carbon Dioxide							Generally not suitable for outdoor use.
Vaporising liquid							Check the characteristics of the specific extinguishing agent.



LIMITED indicates that the extinguisher is not the agent of choice for the class of fire, but that it may have limited extinguishing capacity.

Solvents such as alcohol or acetone mix with water and therefore may require special foam.