

# *Hot work fire safety*

*'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 to take control of your business risks.*

# Hot work fire safety

There are a number of risk factors associated with hot work, including a high risk of fire. Hot work includes but is not limited to, welding; flame cutting; disc cutting; grinding; bitumen boilers; blow lamps; brazing; burning off; soldering and the use of hot air guns. We've outlined a few key steps you can take, to help you prevent this type of fire on your premises.

### Hot work permit

Before carrying out any hot work on-site a 'Hot Work Permit' should be issued. The issuer or authority should inspect the work area prior to releasing the permit and they must confirm all precautions have been taken in accordance with the NZS 4781:1973 – Code of Practice for Safety in Welding and Cutting Standard.

We recommend using the 'NZI Hot Work Permit Card', which is available to you upon request and provided by our Surveyors, so you can easily identify fire hazards and take the necessary precautions.

### Identifying hot work hazards

Here are a few key steps you can take to ensure you manage hot work fire safety effectively on your premises.

- ▶ Where possible, move the hot work object to a designated safe location, such as a welding bay.
- ▶ If the hot work object cannot be moved, relocate all movable fire hazards to a safe place.
- ▶ If the hot work object cannot be moved and if all fire hazards cannot be relocated, provide guards to confine the heat, sparks and slag and protect the immovable fire hazards.
- ▶ Establish a 'Fire Watch Duty' and assign people key responsibilities for overseeing the hot work – where possible, a fire hose should be available to use, if required.
- ▶ Conduct a final check for hot spots 30 minutes after hot work is completed, to eliminate the risk of fire.
- ▶ For more detailed fire safety guidelines refer to the NZS 4781:1973 – Code of Practice for Safety in Welding and Cutting Part 6 Standard.



### Hot work precautions

The following factors must also be addressed in hot work environments, before a hot work permit can be issued.

- ▶ Sprinkler system, if installed, is operational.
- ▶ Automatic fire alarm system, if installed, is operational.
- ▶ Manual fire alarm system, if installed, is operational
- ▶ Maintain all equipment so it's in good working order.
- ▶ Restrain compressed gas cylinders.
- ▶ Identify, isolate, remove, protect or disconnect all hazards, as appropriate.
- ▶ Train hot work operators to perform the work safely.
- ▶ Ensure hand operated fire extinguishers are readily available.



### **Within 10 metres of hot work**

These factors should also be considered to ensure the area within 10 metres of any hot work is managed appropriately.

- ▶ Sweep floors so they're clean and free from combustibles.
- ▶ Wet down combustible floors and cover with damp sand, metal or other shields.
- ▶ Remove any combustible material or liquids.
- ▶ Protect immovable combustibles with covers, guards or metal shields.
- ▶ Cover all wall and floor openings.

### **Hot work in confined spaces (Tanks, containers, ducts, dust collectors etc.)**

Be familiar with the hot work safety procedures in confined spaces – ensure that anyone who welds, brazes, solders or gas cuts any container or pipe that has contained a combustible substance, carries out these safety measures.

- ▶ Hot work equipment is cleaned and all combustibles removed.
- ▶ Containers are flushed out and all flammable vapours extracted.

### **Hot work on foamed plastic panels (Insulating panels)**

Be familiar with these important safety steps when working on or near foamed plastic panels:

- ▶ Do not use heat producing cutting or drilling equipment directly on the panels.
- ▶ Where panels need to be cut, only use cold cutting methods such as shearing with hand operated tools at low speed or cooled/lubricated drills or hand saws.

- ▶ Do not use heated rods or similar to make small holes through the panel core.
- ▶ Equipment cannot be retro-mounted on panels unless it is bolted and supported properly.
- ▶ The panel core cannot be exposed. For example, all penetrations must be sealed and joint covers replaced as the job progresses.
- ▶ Remove all job waste and any combustibles immediately.

### **Hot work fire watch**

Be aware of the post-hot work fire risks and apply these fire watch safety measures.

- ▶ Check for hot spots during and 30 minutes after any hot work is completed.
- ▶ Supply appropriate fire extinguisher(s) in the hot work area and if possible a fire hose should also be available.
- ▶ Train personnel carrying out the hot work and those responsible for the fire watch so they know how to use fire fighting equipment and what to do in raising the alarm.
- ▶ Provide a mobile phone or other suitable means for personnel to raise the alarm.

### **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.

## **[www.nzi.co.nz](http://www.nzi.co.nz)**

These guidelines are of a general nature only. They are not intended to be a comprehensive list of all the steps you should consider taking to reduce the risk of damage and financial loss resulting from hot work fires, nor is it intended to be legal advice.

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