



How does this affect your company?

Hot work is any temporary operation that produces open flames, sparks or heat.

Hot work activities include:

- Brazing and soldering
- Grinding and cutting using disc grinds
- Use of blow lamps/blowtorches
- Welding or cutting using gas or electric equipment
- Use of bitumen/tar boilers

Many serious fires have occurred during construction or maintenance activities where hot work was carried out on either the fabric of the building or machinery within the facilities. These fires could have been prevented if the sites had operated an effective hot work permit system and personnel were trained on how to deal with the hazards of hot work.

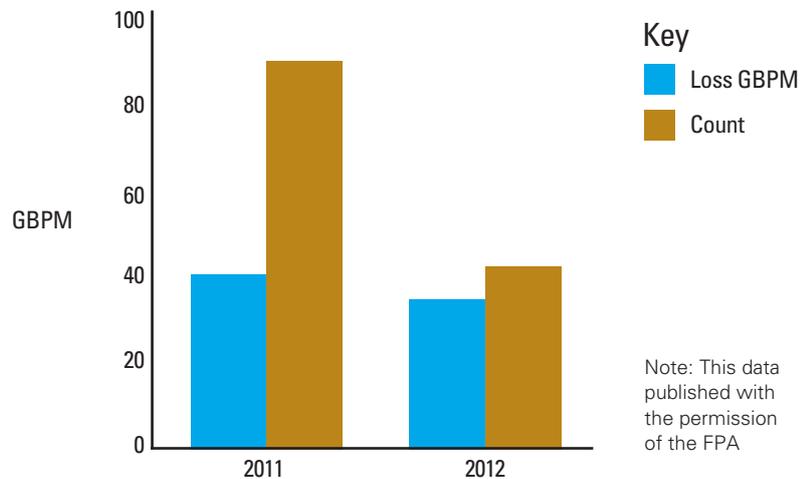
The Tokio Marine Kiln Hot Work Permit covers all of the key elements of a good system. Every facility is different, so it is strongly recommended that each site develops their own procedure covering any specific on site hazards in addition to the core attributes of the Tokio Marine Kiln system. If you have a question about any hot work procedure you need to carry out please contact Tokio Marine Kiln.

Why does this affect your company?

One of the major causes of industrial fires is hot work. It is also commonly recognised that a large percentage of hot work fires are started by external contractors who are appointed to undertake maintenance activities. This percentage is likely to increase as more and more facilities sub-contract everyday maintenance activities to third party companies. The employees of these companies are sometimes not aware of specific on site hazards such as combustible construction, which could be exacerbated by hot work.

Many sites believe it won't happen to them, but unfortunately the law of averages dictates otherwise. Once people have been suitably trained, the application of safe hot work practices should become second nature and integrated.

Hot work ignition – UK fire losses 2011 to 2012



What could happen to your company if you don't take these steps?

It is an interesting statistic that while hot work remains one of the most common causes of fires, most industrial facilities have a Hot Work Permit system available to use. Clearly simply having a permit system is not protection enough. The system has to be stringently implemented by trained individuals and applied to in-house staff as well as contractors.

To obtain copies of the Tokio Marine Kiln Hot Work Permit please contact your local Tokio Marine Kiln office or contact:

Risk Engineering Administrator
Tokio Marine Kiln
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resources@tokiomarinekiln.com

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What should your company do/have?

Safer alternative

Only use hot work as a last resort. For example, can cold cutting techniques be employed such as a reciprocal saw to eliminate torch cutting, can mechanical fixings be used instead of welding, can pipe be joined using threaded connections as opposed to welding, can the hot work be undertaken outside of the facility in the yard area?

Fire watch

This should be continuous during the work and for at least one hour after completion of the work. In addition regular monitoring of the area should take place for at least a further three hours. The majority of hot work fires smoulder for a number of hours before escalating into a more serious incident.

Removal of combustibles

All combustibles within a 10m radius of the hot work area should be removed or covered with fire resistive tarpaulins. In addition, all floor penetrations should be sealed with fire resistive material. If hot work is being undertaken at a high level then tarpaulins should be suspended beneath the area to contain any sparks.

Permit

Apply the Tokio Marine Kiln Hot Work Permit or an equivalent permit and limit duration of permit validity to one shift. This should apply to employees as well as contractors and should form part of the risk assessment undertaken for the work.

Fire protection/detection

All fire protection/detection systems should remain operational during periods of hot work unless there is a danger that the system could be accidentally actuated. If a system has to be isolated, then the unprotected area should be as small as possible and the system should be reinstated as soon as possible after the hot work is completed. The Tokio Marine Kiln Fire Protection Impairment Form should be used when isolating fire protection systems.

Manual fire fighting equipment

Fire hoses should be laid out and connected and/or fire extinguishers should be positioned in the area of hot work. The person undertaking the fire watch should also be trained in the use of this equipment.

Training

All people involved with hot work activities should be fully trained on the possible hazards.

Responsible person

There should be dedicated site employees with the authority and knowledge to issue hot work permits. Contractors should not be allowed to issue hot work permits and they should be fully supervised on site possible hazards.

References

- Tokio Marine Kiln Hot Work Permit – available in English, French, German, Spanish and Italian
- Fire Protection Association, Hot Work Permit Scheme – ISBN1 902790 19-7
- Fire Protection Association, Hot Work Risks DVD – www.thefpa.co.uk
- NFPA51B – Standard for Fire Prevention During Welding, Cutting, and Other Hot Work – www.nfpa.org



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