

HOT WORK



Risk Control Guide

Introduction

Hot work is defined as any operation that involves open flames or produces heat or sparks, e.g. cutting, grinding, brazing, soldering, welding, chipping, or hot riveting.

Inadequately controlled hot work is a major cause of fire. Hot slag from a welding torch can easily ignite combustibles 10-m away from the work area, and the resulting fire can grow undetected.

Taking suitable precautions would seem to be the obvious solution. However, it is human nature to cut corners, and the loss history clearly demonstrates that the only way to effectively manage this risk is to develop and implement a formal policy.

Loss examples

Heat and sparks from a cutting torch, being used by two maintenance employees, ignited the inside of a steel pickling plant. Within a matter of minutes, most of the plant was involved in the fire. It took fire fighters over four hours to bring the blaze under control. The non-indexed loss was £60mn (\$90mn) combined property damage and business interruption.

Highly combustible construction and the lack of automatic sprinkler protection were the primary contributing factors. The roof construction was standing seam with expanded polystyrene and spray-on polyurethane on top. Spray-on polyurethane foam had also been installed on the interior in some areas to prevent corrosion.

This loss accentuates the need for a hot work policy, and demonstrates the increased hazard potential associated with highly combustible areas that are not provided with adequate fixed fire protection systems.

Sample Permit

The attached permit is included to assist the clients of RSA in developing their own hot work permit. This permit can be amended as required. It is suggested that a two-part permit be employed. The person who authorizes the hot work should retain one copy for follow-up, and the other should be retained at the site of hot work. For smaller locations, or at locations where hot work is seldom performed, printouts with copies could accomplish the same objective.

Hot Work Permit

RSA Global Consulting

If any of the items below are true, do not issue a permit:

- Hot work can be performed in a safer location
- Alternate fastening methods are practical

If hot work is permitted, document the scope of the work to be performed:

Work performed by:		Location
Description		
Date	Start time	End time

The person authorizing the hot work should verify that the following precautions are to be taken.

Physical inspection of the site is required:

Indicate NA in space provided if not applicable.

- ___ Combustibles eliminated or otherwise safeguarded within 10 m
- ___ Floor penetrations properly protected
- ___ Required fire protection, detection, and alarms systems are functional
- ___ Hot work equipment is in good repair
- ___ Adequate portable extinguishing equipment provided
- ___ No explosive atmosphere (no mixture of flammable gases, vapour, dust with air)
- ___ Dedicated fire watch during the operation (trained employee recommended)
- ___ Area monitored after completion for a period of one hour

The above location has been examined, adequate precautions are being taken, and permission is authorized for this work:

Signature	Title	
Date	Time	

The personnel who conducted the hot work should document the time when hot work was completed and the time that the monitoring period ended.

Time complete	Monitoring complete
Signature	

The permit should be returned to the authority that authorized the hot work for sign off:

Signature	Title	
Date	Time	

CAUTION!
Hot work
taking place

Risk Control Guide

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