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ENGINEERING MANAGEMENT

WELDING ACTIVITIES & HOT WORK PERMIT

GOOD PRACTICE GUIDANCE

Textile Services Association

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ENGINEERING MANAGEMENT
WELDING ACTIVITIES

INTRODUCTION

This good practice guidance has been put together to help with the management and control of all welding activities whether they are carried out inside or outside the factory.

Welding, by its nature, offers a significant fire risk. The key principles for all welding activity are:

- "Any welding activity should only take place inside a factory as a very last resort"
- "Where possible, all welding activity should take place outside the factory or in a dedicated welding bay

Hot work is any activity or process that generates a source of ignition, such as flame, heat or spark.

KEY CONTROLS

The following are some key controls which should be considered and adopted where appropriate:

1. All welding activity completed outside of a dedicated welding bay should be controlled using a "Hot Work Permit".
2. Where a hot work permit is required (i.e. for all uncontrolled area activity) the permit should be generated and issued by a trained, competent and authorised employee.
3. All hot work activity should be completed by trained and competent employees (in either controlled or uncontrolled areas).
4. A hot work permit may not be required for hot work in a controlled area (dedicated welding area), although the main principles of the hot work permit should be followed and maintained.
5. The fire category areas should be further split down into associated fire hazards.
    a. All combustible material should be cleared from the area.
    b. Where combustible material cannot be removed, it should be protected.
    c. All lint, debris and rubbish should be swept from the floor and removed from the direct area before the work starts (minimum 10m from the hot work source, where it is possible to do so).
    d. A trained member of staff should remain as a fire watch during the whole hot work activity.
    e. A trained member of staff should remain on fire watch for a minimum of two hours after the work activity has been completed. Please refer to your insurance policies for further information.

f. Appropriate equipment, which protects neighbouring members of staff (i.e. welding screens), is to be used.
g. A suitable fire extinguisher should be available in the immediate area for use in a fire emergency.
h. All employees involved in the hot work activity should know how to activate the fire alarm system, know the position of the nearest call point and be able to call the fire services.

6. All equipment to be used in the hot work activity should be in a suitable condition and secured (i.e. gas bottles).
   – THIS IS A REPEAT
7. Welding on pressure systems, i.e. steam pipes/lines, should only be completed by a coded welder
8. It is good practice to avoid welding using Acetylene.
9. A "controlled" welding facility should include:
   a. A purpose-built welding bench (i.e. metal topped).
   b. Welding curtains or screens to protect other persons from the welding activity and sparks/debris control, the curtains should reach the floor.
   c. A Local Exhaust Ventilation.
   d. Appropriate RPE, as identified by your local risk assessment.
   e. Appropriate fire-fighting equipment in the immediate vicinity.
10. There should be no storage (including combustible and flammable items) or poor housekeeping in the immediate vicinity of the dedicated welding area.
11. A good standard of lighting is required.
12. During all welding activity the welder should use the correct Personal Protective Equipment (PPE)
13. Note: The fumes from welding activities have been categorised as carcinogenic by the HSE. Appropriate Respiratory Protection Equipment (RPE) should be worn for all welding activities.
    Reference link: https://www.hse.gov.uk/respiratory-protective-equipment/
14. Any welding activity completed in an open air / external area should not be completed in extreme weather conditions which can adversely affect hot working activity (i.e. strong/high winds, high ambient temperature).

15. Hot work permits remain operational and valid for a fixed period of time (normally a shift) and should be displayed in the area of the hot work activity.
16. Any hot work involving a “composite panel” (i.e. a panel that has fire protection properties) should be subject to a hot work permit.
17. A hot work permit should consider emergency preparedness issues to ensure these issues are thought through before the hot work activity begins.
18. Hot work permit process should be included in the Company Fire Risk Assessment programme (see “Good Practice Guidance – Fire Risk Assessment MC001 for further advice).
19. It is good practice to check the location of any hot work/welding as part of your end-of-day procedures.

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