OCCUPATIONAL HEALTH & SAFETY UNIT

HAZARD ALERT

www.ppteu.asn.au

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HDPE Electrofusion - Fire hazard

Hazard

Continuing concerns are being raised in relation to the process of electrofusing High Density Polyethylene (HDPE) pipe and fittings.

The major concern relates to pipework of 150 mm diameter and greater, where the loss of control during the application of heat to the fittings results in excessive heat being applied over a short time frame, resulting in destruction of the fitting, or at worst, a fire.

Test results of the fittings and pipe have been unable to resolve whether the fitting had failed, or the equipment applying the voltage had oversupplied the required electrical current to the fitting.

Risk

This event has the potential to cause property damage and/or injury to workers involved in the activity due to fire.

Risk Controls

Investigation of the fires have identified a possible contributing factor; being the draft effect the pipework has on the overheated fitting, causing the material to ignite internally.

- The draft effect can be reduced by placing a blank at the opening of the pipework prior to heating. This has the effect of reducing fuel to the fire, and also providing a more constant air temperature to the internal bore of the pipework.
- Adequate training and information given to workers to ensure all processes are followed as per the manufacturer's recommendations.
- Maintaining a fire watch reflecting the cooling times of the manufacturer of the material is important before leaving the heated material unattended. (Half hour for 40mm-100mm and 1 hour for 150mm plus).
- Calibrated equipment to ensure correct current and times are applied.

See over

Supported by Incolink Funding

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All other considerations as per any hot work permit.

- Requirement of a documented 'hot work permit' detailing responsibilities
- Fire extinguishers appropriate for the material
- Confined space requirements (fumes)
- Spotter
- Other

(See Hazard Alert “Polyfusion and Electrofusion of Pipes-Electrical Hazard”)

S. Rocco V2 2016