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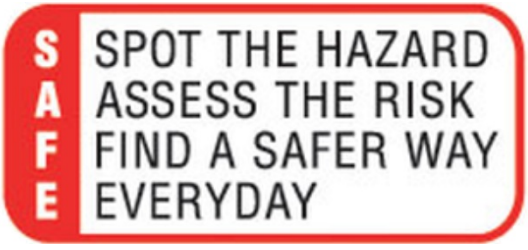

Risk Element

- Spread of fire;
- Exposure to fumes;
- Eye injury;
- Burn injury;
- Electrocution;
- Danger to third parties;
- False alarm trips.

Precautions to Eliminate/Reduce Risk

- Use of heat shields;
- Removal of combustibles;
- Fire extinguisher present;
- Second person present;
- Ventilate work area;
- Removal of refrigerant gas.(Purge with nitrogen when necessary);
- The use of a respirator;
- Wear eye protection;
- Wear fire retardant clothing, heat resistant gloves and suitable safety shoes;
- Check all electrical equipment to ensure that it has been connected correctly;
- Effectively cordon off working area;
- Isolation or protection of sensors;
- Two checks, the first after 30 minutes at the end of the operation. All hot works to stop 1 hour prior to end of shift, with a thorough inspection carried out before leaving site for any smouldering materials.

Action in an Emergency

- Switch off and isolate Welding equipment;
- Attempt to extinguish fire if appropriate;
- Remove injured person(s) from danger area (if without risk);
- Render first aid.

Safe Working Method

This is one of the most common methods of joining steel pipe and involves the use of an electric arc to cause localised melting of the steel pipe and the electrode rod thereby forming an integral joint by the process of fusion.

NOTE: when using this process, check that this process will not interfere electrically with any electronic equipment installed in the building.

- Contact customer's management to gain permission and to advise of work to be carried out;
- Where required, complete Hot Work Permit and adhere to any rules printed thereon, over and above these procedures;
- A fire extinguisher of the correct type must be present and within reach;
- Arrange for isolation of any fire alarms, i.e. smoke detectors and heat sensors if in the vicinity of the working area;
- Cordon off area within which work is being carried out, to prevent the entrance of unauthorised personnel;
- If work is to be carried out in a confined space, then adequate ventilation must be made or a suitable respirator must be used;
- Suitable screening must be provided to protect other personnel from the effects of the rays produced from the electric arc;
- Eye protection (full face mask) must be used at all times;
- Flame resistant clothing must be worn;
- Suitable safety shoes must be worn;
- Heat resistant gloves must be worn;
- Before commencing work, check all welding equipment, including cables, clamps and hand sets;
- A second person must be present at all times whilst carrying out welding;
- Heat shields must be used to protect any surrounding material;
- Ensure work area is clear of any combustibles, e.g. oil, lagging, paper, etc.;
- The preparation of the materials being joined and the actual welding process itself must be carried out in accordance with any specified standards. If no standards are specified then the work must be carried out in accordance with good practice;
- On completion of work, check surrounding area for smouldering;
- Two checks, one after 30 minute interval at the end of the operation. All hot works to stop 1 hour prior to end of shift, with a thorough inspection carried out before leaving site for any smouldering materials;
- Complete Hot work Permit if required;
- Report back to customer's management;
- Arrange to reinstate fire alarms.

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