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WORKED EXAMPLE: RISK ASSESSMENT AND METHOD STATEMENT

MIG welding a pump frame in a plant room

Hollins & Reed Metalwork Ltd · 10 and 11 November 2026 · In charge: Dan Hollins

Worked example. Change it to fit your job before you use it.

Job details

Company	Hollins & Reed Metalwork Ltd
Site and work area	Plant room, Kingsway Retail Park, Stockport
Planned dates	10 and 11 November 2026
Customer	Kingsway Retail Park Management Ltd
In charge on site	Dan Hollins
Team	Two people: Dan Hollins welds; Priya Shah is the fire watcher and does no hot work.
Work	MIG welding a pump frame in a plant room
Prepared by	Dan Hollins
Signature	
Date	

Work and boundaries

MIG weld a new steel pump frame. Areas: Plant room, new pump base frame on the existing plinth

Working arrangement

- Access: the floor or ground.
- The work area will be kept clear of other people.
- The retail park keeps trading. The plant room, about 8 m by 6 m and built in 2009, is closed to everyone else while we work, with the door shut and the low and high louvres kept clear. The facilities manager issues the hot-work permit and walks the room with us. The screen keeps sparks off the low louvres, so they are not boarded. The pump maker's drawing calls for a welded base frame, so bolting will not do, and the frame is too big for the door in one piece. The sections are cut in our workshop and welded here, so nothing is cut on site. A fault that would need grinding out stops the work and is reported. Our weld procedure covers the joints and how the steel is cleaned. The frame stands on the existing plinth and carries only the pump: no part of the building rests on it. The lagging on the pipes nearby is covered before we start. Dan Hollins

wears flame-resistant overalls and gauntlets. Both of us wear powered air helmets, because the room is small and fume can linger. Priya Shah stays behind the screen by the door, where she can see the work. Hot work stops at 15:00, the watch runs to 16:00, and the last check is at 17:00.

Emergency arrangements

Fire: shout, break the glass at the call point outside the plant room door, and leave down the service corridor. While the detectors are off, Priya Shah is the detection for that zone: she raises the alarm first and tackles a fire only if it is safe. Close the gas cylinder if you can do it safely. Muster at the rear service yard and report to the facilities manager, who tells the fire service the shielding gas cylinder is on the welding trolley in the plant room. Burn or anyone taken ill: first aider S. Okafor, facilities office. Priya Shah rings 999, or Dan Hollins if she cannot. The facilities team meets the crew at the service yard gate and walks them down the corridor.

Planned method

1. **Set up the work area**
   Confirm the work area and scope before starting. Keep other people outside the active work area. Keep entrances and escape routes clear.

2. **Check the welding equipment**
   Inspect the set, leads, torch, gas hose and connectors before plugging in. Check the wire feeds cleanly and the extraction runs. Withdraw damaged equipment from use.

3. **Check for hidden services**
   Find cables and pipes before you disturb anything: drawings, then a detector. Mark what you find. Nothing on this job is cut into or isolated. Not sure what is there? Do not start: ask the site contact.

4. **Carry the steel, tools and metal parts safely**
   Plan the route, clear it, and get help with anything long or heavy. Store materials close to the work so nobody carries further than they need to.

5. **Clear combustibles before hot work**
   Walk the area with the site contact. Check around the work, below it and on the other side of any partition. Move combustible material away, or cover it with flame-resistant covers. Protect openings with non-combustible board. Agree which detector zone is isolated, who isolates it and who puts it back on. Place at least two suitable extinguishers at the work and post a fire watcher who is not doing the hot work.

6. **Clean the steel and clamp the part**
   Clean the steel at each weld as the weld procedure says. Clamp the part in place before you strike the arc.

7. **Clamp the return to clean work metal**
   Clamp the current return close to the weld on clean metal. Do not use a handrail, pipe or building frame unless it is the workpiece.

8 **Secure the shielding gas cylinder**
Bring only the cylinder the job needs and secure it upright on the welding set trolley, before use. Close the cylinder valve before connecting or disconnecting anything, and at the end of each shift. Keep the hose free of kinks and clear of hot metal.

9 **Screen the arc from other people**
Set a welding screen around the work before striking the arc. Wear the correct welding filter and covering clothing.

10 **Capture welding fume at the torch**
Use the on-torch extraction on every weld, set up to the maker's instructions. Any air it discharges into the work area must be filtered. The torch does not catch all of it, so the welder also wears a powered air welding helmet with an APF of at least 20. Keep your head out of the plume.

11 **Get the hot-work permit for this place and shift**
Get a permit for this location and this shift, once the area is cleared and the fire cover is in place. It states the place, the times, the precautions, how to raise the alarm, who is in control and who authorised it. Keep a copy on display at the work.

12 **Work under the permit**
Weld only what the permit covers. Keep the fire watcher on duty during the work and through every break. Stop hot work two hours before the end of the working day.

13 **Check each finished weld**
Look over every finished weld before you move on. Put right small faults on the spot, such as a poor stop or start. If you see a crack, stop and report it. Keep a record that the welds were checked.

14 **Complete the fire watch before handback**
Keep a continuous fire watch for at least an hour after hot work stops, then make at least one more check two hours after finishing. Inspect behind walls, below floors and in voids before closing the permit. Have the detector zone put back on as soon as the work stops, and sign off the permit.

15 **Clear and hand back the area**
Remove tools, waste and unused materials. Check the area is clean and ready to use. Tell the customer or whoever runs the site when the work is complete.

Risk assessment

Hazard	Who might be harmed and how	Controls in place
People entering the work area or tripping over materials Step 1	Workers, occupants and visitors	Mark or barrier the active work area. Store tools and materials away from access routes.

Hazard	Who might be harmed and how	Controls in place
Electric shock, burns or a failed welding return circuit Step 2	The welder and nearby workers	Use equipment suitable for the task and in good condition. Report defects before the arc is struck.
Hitting a live cable or gas pipe causes shock, fire or gas escape Step 3	The person doing the work and everyone nearby	Check again wherever the work moves. If you hit something, stop, keep clear and report it.
Back and shoulder injury from carrying heavy or long items Step 4	Everyone handling materials	Use a trolley or sack truck on the flat where the load suits one. Where the work is up a level, hand items up or hoist them. Never carry them up a ladder.
Sparks, hot metal or spatter starts a fire Step 5	Everyone in and near the work area	Sparks can travel a long way and start fires in other rooms: check the routes they can take. Put a cold method first if the job can be done without heat.
A loose part moves, or dirty metal makes more fume Step 6	The welder and people nearby	Stop and ask if you find paint or a coating you did not expect.
Stray welding current causes shock, burns or property damage Step 7	The welder and people touching nearby metal	Keep the return path short. Stop if the return cannot attach safely to the workpiece.
A cylinder falls, or its gas leaks Step 8	The welder and people nearby	Check the cylinder and fittings before use with leak detection fluid or soapy water. Do not use a cylinder that leaks or is damaged.
Arc-eye, burns and harmful light reaching people nearby Step 9	The welder, passers-by and nearby workers	Keep unprotected people outside the screened area. Use a suitable welding curtain or screen.
Breathing welding fume: lung cancer, and manganese harm to the nerves Step 10	The welder and people nearby	General ventilation alone does not control welding fume. Keep people out of lingering fume, and keep anyone who is not protected out of the welding area. Keep the extraction’s test record with the set. It needs a thorough examination at least every 14 months.
Hot work starts before the fire precautions are in place Step 11	Everyone in and near the work area	No permit, no hot work. A new shift or a new place needs a new permit.

Hazard	Who might be harmed and how	Controls in place
A fire takes hold unseen during the work or a break Step 12	Everyone in and near the work area	The fire watcher raises the alarm first, and tackles a fire only if it is safe. Stop and get the permit changed if the job or the place changes.
A weld that looks finished has a fault, and the part fails in use Step 13	People who use or work near the part	The welder checks their own work. Anything more than a small fault goes to the person who asked for the weld.
A smouldering fire develops after the work stops Step 14	Everyone in and near the work area	Tell the site when the work and watch are finished. Keep to a longer watch if the site requires one.
Debris, tools or unfinished work left in the area Step 15	Workers, occupants and visitors	Remove waste by the agreed route. Record and protect any unfinished work.