

Task 2 – Production

You must:

- a) prepare the work area
- b) mark out and cut components for the anchor using cutting equipment
- c) prepare cut components for welding
- d) fabricate the components using two different welding techniques and two different welding positions
- e) forge the stock end
- f) assemble the anchor
- g) reinstate the work area.

Conditions of assessment:

- the time allocated for this task is **20 hours**
- you must carry out the task on your own, under **controlled conditions** while being observed
- you must follow safe systems of working at all times
- your hot works permit **must** have been countersigned by the assessor prior to starting this task.

Controlled conditions:

- you must only work on your tasks in the allocated times
- assessment evidence must be handed in at the end of each session for secure storage which cannot be accessed
- all practical work areas and any evidence produced must be kept secure and only accessible by the assessor
- you must not share or discuss your work with other candidates
- you are not permitted to bring any materials into the assessment session.

What you must produce for marking:

- fully fabricated and welded anchor consisting of:
 - stock
 - crown
 - shank
 - flukes and support
 - pre-fabricated shackle and chain attached.

Additional evidence for this task:

- assessor observation to include:
 - the work area, prior to, during and on completion of fabrication activities
 - preparation of tools and equipment
 - production stages of anchor (marking out, use of cutting list, cutting, welding preparation, welding, finishing and final assembly)
 - the application and use of welding tools, equipment and skills to include,
 - the use of two different welding techniques
 - one continuous 150mm completed welds for each of the two different welding processes selected.

To support the comments made within the Practical Observation the assessor must capture the following photographs that must be uploaded as supporting evidence for each candidate.

Photographic evidence which shows:

- the prepared work area and the work area on completion of the fabrication activities
- marking out and use of measuring equipment
- cutting and preparation of cut components
- application of welding techniques, showing two different welding processes and two different welding positions
- the completed anchor (with the pre-fabricated shackle and chain attached).

Resources

- appropriate Personal Protective Equipment (PPE) (as per resources list)
- marking out tools
- hand tools (hammer, hand file)
- band saw
- abrasive equipment (files, angle grinder)
- cutting equipment (flame, plasma, laser, power nibblers, hand tools)
- welding equipment (two from TIG, MIG, MAG, MMA)
- forging equipment (hammers, furnace or equivalent, tongs, clamping vice)
- drilling equipment (pillar drill, power tool, bits, chucks)
- emery cloth
- copies of completed documentation from Task 1.

Materials:

- 6mm mild steel plate
- 6mm mild steel round bar
- 10mm mild steel flat bar
- mild steel chain (pre-fabricated)
- shackle (pre-fabricated)
- pin (pre-fabricated).

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