

J3.12 Join silverware components by soldering SQA Unit Code H9VH 04

Unit Summary

This unit covers the skills and knowledge required to produce silverware using soldering as a joining technique. You will be required to work to instructions and follow designs. You will be also required to use a range of hand tools and a variety of joining techniques. During and on completion of the production operations, you will be expected to check the quality of your work by comparing them against the tolerances to be achieved, accuracy to the design and ensure that the soldering work meets the required standard. You need to report any problems to seek guidance on the appropriate action to rectify them,

Performance Indicators

You will be able to:

- a) Join silverware components using **soldering techniques** appropriate too your work
- b) Join silverware components using a range of **heating equipment**
- c) Check and clean the completed work, rectifying faults and visually examining to ascertain if the work meets the standard required
- d) Manage waste materials in the correct manner
- e) Complete the work to the given specification

Knowledge and Understanding

You will know and understand:

- 1) The specific safety precautions to be taken during the joining of components
- 2) How to identify the materials to be joined and the most appropriate joining method
- 3) The importance of selecting the correct grades of solder and methods of joining components, to achieve maximum strength
- 4) The importance of heat, flux and solder during hot joining techniques
- 5) The range of heating equipment available and the type, size, strength of flame associated with each piece of equipment
- 6) The importance of dry assembling components together before carrying out the joining operations
- 7) The melting points of the various metals used in jewellery or silverware manufacture
- 8) How to recognise the point at which melting is about to take place
- 9) The typical faults that can occur with the joining techniques and processes
- 10) The procedures to be undertaken if a fault is identified
- 11) The safe use, proportions, and ways in which chemicals are used for cleaning the completed work
- 12) How to check the finished work meets the standard required

Range

You are required to:

- A. Produce a range of silverware that use at least two **advanced soldering techniques** from the following:
 - (i) Stick fed joints
 - (ii) Long Soldered joints
 - (iii) Soldered hinges
 - (iv) Pallions

- B. Join silverware components using at least three types of the following **heating equipment**
 - (i) Oxygen and acetylene
 - (ii) Natural Gas and air (compressed or mouth blown)
 - (iii) Propane
 - (iv) Propane and compressed air
 - (v) Propane or natural gas and oxygen
 - (vi) Laser welding
 - (vii) Tungsten Inert Gas (TIG) welding