

Join jewellery or silverware components by soldering

Overview

This standard covers the skills to produce jewellery or silverware using soldering as a joining technique.

You will work to instructions and follow design using a range of hand tools, metals and joining techniques.

During and on completion of the soldering, you will be expected to check the quality of your work by comparing it against the tolerances to be achieved, accuracy to the design instructions and that the soldering work meets the required standard without defects. You will need to report any problems and seek guidance on the actions to rectify them.

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Performance criteria

You must be able to:

1. produce jewellery or silverware ***components using a range of *soldering techniques** for different projects in line with industry best practice
2. join jewellery or silverware using a range of **heating equipment** for different projects in line with industry best practice
3. produce jewellery or silverware using a variety of joined components in line with industry best practice
4. produce jewellery or silverware joining two different metals in line with industry best practice
5. clean the completed work visually examining for any faults whilst doing so in line with workplace instructions
6. seek support and guidance when problems arise in line with workplace instructions
7. check the work for tolerances and defects in line with project needs
8. take action to rectify any defects detected in line with workplace instructions
9. complete the work to the given specification in line with workplace instructions
10. manage waste materials safely and economically in line with workplace instructions

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Knowledge and understanding

You need to know and understand:

1. safety precautions to be taken during the joining of components
2. types of materials to be joined and associated joining methods
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. how to work with different melting points and solders within the same piece
6. heating equipment that is available and the type, size, strength of flame associated with each piece of equipment
7. the importance of dry assembling components together before carrying out the joining operations
8. melting points of a range of metals
9. who to ask for guidance and support when needed
10. how to recognise the point at which melting is about to take place
11. common faults that can occur with the joining techniques and processes
12. the procedures to be undertaken if a fault is identified
13. the safe use, proportions, and ways in which chemicals are used for cleaning the completed work
14. how to check the finished work meets the standard required
15. best practice in joining within chosen jewellery or silverware industry

Scope/range

1. **Soldering joining techniques** can include the following for either jewellery or silverware:

Group 1 Jewellery

1. fine wire work
2. peg set work

OR

Group 2 Silverware

1. long soldered joints
2. stick fed joints
3. soldered hinges
4. pallions

2. **Heating equipment** can include:

1. micro weld
2. natural gas and air (compressed or mouth blown)
3. propane
4. propane or natural gas and oxygen
5. laser welding

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