

## **J3.8 Produce components by wax casting SQA Unit Code H9VG 04**

### **Unit Summary**

This unit covers the skills and knowledge required to produce lost wax castings from rubber moulds. In producing lost wax castings, you will be required to work to instructions, and make waxes, build simple trees, invest and finally cast, using the correct temperatures and techniques appropriate to the type of metal being used. During, and on completion of, the casting process, you will be expected to check the quality of your work. You will need to report any defects, to seek guidance on defects, seek advice on the appropriate action to rectify them, and to ensure that the finished work meets the required standard.

### **Performance Indicators**

You will be able to:

- a) Carry out all the necessary preparatory work prior to waxing and casting
- b) Follow the correct techniques and procedures for wax injecting
- c) Produce a range of varying sized components
- d) Ensure that all wax components are free of surface defects and have sufficient material to allow for shrinkage
- e) Assemble wax components using the correct technique for the chosen casting process
- f) Follow the correct techniques and procedures for investing
- g) Ensure the correct burnout times are applied
- h) Carry out all activities safely and correctly and in a manner that does not cause risk of injury to yourself or others, or damage to components and equipment

### **Knowledge and Understanding**

You will know and understand:

- 1) The specific safety practices and procedures to be observed when casting
- 2) The specific materials to be used, quantities and mixing ratios to be applied, working life of materials and mixes
- 3) How to clean, maintain and use wax injection equipment
- 4) The importance of assembling wax trees; and calculations and formula required
- 5) How to clean, maintain and use vacuum processing equipment
- 6) How to carry out investing; and the calculations and formula required
- 7) The importance of correct duration and temperatures for burnout
- 8) How to clean, maintain and use casting equipment
- 9) The methods and techniques for the removal of work from investment
- 10) How to apply cleaning and finishing techniques
- 11) How to recognise faulty castings, typical defects, and how to rectify the problem