

Overview

This standard covers the skills to produce a decorative surface, using appropriate engraving techniques. You will engrave textured and ornamental work, basic lettering and monograms, heraldic patterns and heraldic colours and basic carved work on materials such as silver and brass. You will also develop your etching and enlargement and reduction techniques.

In producing engraved products, you will work to instructions and use a range of hand tools and a variety of techniques appropriate to the type of material being used and the type and style of engraving being executed.

During, and on completion of, the engraving operations, you will visually check the quality of their work. You will need to report and seek guidance on any defects, seek advice on the appropriate action to rectify them, and to ensure that the finished work meets the required specification.

Performance criteria

You must be able to:

1. research a variety of engraving techniques for different projects in line with workplace instructions
2. practice a variety of engraving techniques for different projects in line with workplace instructions
3. engrave work made in a range of **materials** for different projects in line with workplace instructions
4. complete a range of **engraving designs** using a variety of hand tools for different projects in line with workplace instructions
5. conduct work on a range of **surfaces** for different projects in line with workplace instructions
6. engrave work using a pantograph (2D and 3D) and computer numerical control (CNC) system for different projects in line with workplace instructions
7. eliminate unwanted engraving and slips in line with workplace instructions
8. seek support and guidance when problems arise in line with workplace instructions
9. complete initial checks that components are dimensionally accurate, the forming is correct and there are no excessive marks visible in line with the needs of the project
10. check the work for defects in line with the needs of the project
11. take action to rectify any defects detected in line with workplace instructions
12. complete the work to the given specification in line with workplace instructions

Knowledge and understanding

You need to know and understand:

1. safety precautions to be taken when engraving
2. safe storage, handling and disposal of chemicals techniques
3. safe operation and maintenance of machines and tools
4. how to make, harden, temper and sharpen tools
5. letter forms and their layout, inscriptions and monograms
6. who to ask for support and when to do so
7. layout of scrollwork and ornamental patterns
8. drawing concepts such as line, shape, shading and how to interpret these
9. how to interpret pictorial work represented as line, dot or texture
10. how to copy designs
11. how to increase and reduce designs
12. heraldic rules and terminology
13. heraldic colouring
14. basic metallurgy
15. range of materials to be engraved and associated processes
16. carving techniques and reverse cutting
17. different types of cuts to engraved lines and how these change according to the project needs including fine shading, threading, flange cut and v-cut
18. etching techniques
19. enlargement and reduction
20. methods to hold and centre work
21. the use of machine and computer engraving and 3D carving
22. how to combine multi-metals in a base material for overlay and inlay
23. surface preparation and methods of erasure
24. how to prepare templates by pattern making, hand engraving and lathe work
25. surface treatments
26. the sequence of application to remove surface marks
27. common defects and how to rectify them
28. how to check work pieces for dimensional accuracy
29. how to check that finished work meets the specification required
30. best practice in engraving with chosen industry

CCSJ316

Produce engraved surfaces



Scope/range