204: Installation of wiring systems and enclosures  
**Worksheet 1-100: Metal fixing methods**

**NB**: Students must not attempt this exercise before the correct use of all tools and materials has been demonstrated.

**Technical data**

* You are to make sure that your work area is clear and safe for work to proceed.
* You are to make sure that all your work conforms to the requirements of the Health and Safety at Work Act.

**Material required**

|  |  |
| --- | --- |
| 1 off | Metal cable trunking lid 500 x 50mm |
| 4 off | Pop rivets 3.2 dia x 10mm |
| 4 off | Steel pan head set pins M6 x 12mm |
| 4 off | Steel hexagon full nuts M6 |

**Procedure**

1. Enter the start time on the assessment sheet.
2. Complete the material requisition.
3. **Have the requisition checked before proceeding.**
4. Mark, cut and file one end of the material square to one side.
5. From this end mark and cut Section ‘C’ and two identical pieces ‘A’ and ‘B’ to dimensions shown on the diagram.
6. Identify all the three pieces of your work with your initials using letter stamps.
7. **Have your work checked before proceeding.**
8. Mark the positions of the fixing holes and cut-outs on ‘A’ and ‘B’ and position of the 20/25mm holes on Section ‘C’.
9. **Have your work checked before proceeding.**
10. Drill the 4 x 3.2mm holes in Section ‘A’ and form cut-outs.
11. Drill the 4 x 6.0mm clearance holes (6.3mm) in Section ‘B’ and form cut-outs.
12. Drill 2 x 20mm and 2 x 25mm holes in the positions shown on the diagram.
13. **Have your work checked before proceeding.**
14. Using Sections ‘A’ and ‘B’ as templates, mark and drill appropriate-sized fixing holes in Section ‘C’ to fix ‘A’ and ‘B’ to ‘C’.
15. Fix ‘A’ and ‘B’ to ‘C’ at positions shown.
16. Remove all burrs and sharp edges.
17. **Hand the work to the Lecturer for marking and assessment.**
18. Enter the finish time on the assessment sheet.

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| Exercise 01-100 Metal Fixing Methods.png |

Assessments are based on **observed** safety procedures, and the **quality** and **accuracy** of the completed exercise.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **YES** | **NO** |
| **1.** | Material requisition correct first time | **□** | **□** |
| **2.** | Method statement completed | **□** | **□** |
| Assessed by: ………....………….. | |  | |
| **3.** | Section ‘A’ length correct | **□** | **□** |
| **4.** | Section ‘B’ length correct | **□** | **□** |
| **5.** | Section ‘C’ length correct | **□** | **□** |
| **6.** | All three sections identified correctly | **□** | **□** |
| Assessed by: ………....………….. | |  | |
| **7.** | Section ‘A’ fixing holes positions marked correctly | **□** | **□** |
| **8.** | Section ‘A’ cut-outs dimensions marked correctly | **□** | **□** |
| **9.** | Section ‘B’ fixing holes positions marked correctly | **□** | **□** |
| **10.** | Section ‘B’ cut-outs dimensions marked correctly | **□** | **□** |
| **11.** | Section ‘C’ 20mm holes positions marked correctly | **□** | **□** |
| **12.** | Section ‘C’ 25mm holes positions marked correctly | **□** | **□** |
| Assessed by: ………....………….. | |  | |
| **13.** | Section ‘A’ 3.2mm holes correct size and position | **□** | **□** |
| **14.** | Section ‘A’ cut-outs removed correctly | **□** | **□** |
| **15.** | Section ‘B’ 6.3mm holes correct size and position | **□** | **□** |
| **16.** | Section ‘B’ cut-outs removed correctly | **□** | **□** |
| **17.** | Section ‘C’ 20mm holes correct size and position | **□** | **□** |
| **18.** | Section ‘C’ 25mm holes correct size and position | **□** | **□** |
| Assessed by: ………....………….. | |  | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **19.** | Section ‘A’ and ‘C’ positions of fixings correct | | **□** | **□** |
| **20.** | Section ‘A’ and ‘C’ fixings secure | | **□** | **□** |
| **21.** | Section ‘B’ and ‘C’ positions of fixings correct | | **□** | **□** |
| **22.** | Section ‘B’ and ‘C’ fixings secure | | **□** | **□** |
| **23.** | All burrs and sharp edges removed | | **□** | **□** |
| **24.** | Work identified correctly on final presentation | | **□** | **□** |
| **25.** | Work area conformed to requirements of HASAWA | | **□** | **□** |
| **26.** | Correct safety procedures observed at all times | | **□** | **□** |
| **27.** | Overall appearance to a commercially acceptable standard | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| Start Date & Time: ………………........………….. | | Finish Date & Time: ……...…...........…………… | | |
| Target Time: 420 minutes | | Time Taken: …………………….........…………… | | |