204: Installation of wiring systems and enclosures  
**Worksheet 4-050: Forming a double-set in cable tray**

**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.
* Ensure that the cable tray is not cut across the slots.
* Ensure that all edges are deburred.
* Use only pencil to mark dimensions on the cable tray.
* The work area must be restored to a satisfactory condition on completion.

**Material required**

|  |  |
| --- | --- |
| 400mm | Metal cable tray 100mm wide |
| 4 off | M6 x 12mm pan head steel set pins |
| 4 off | M6 steel nuts |

**Procedure**

1. Enter the start time on the assessment sheet.
2. This double-set may be either left- or right-handed; check with the Lecturer which ‘hand’ you should make.
3. Prepare the material requisition.
4. **Have the requisition checked before proceeding.**
5. Obtain the material stated from the stores.
6. Mark square and cut one end of the cable tray, taking care to meet the requirements of the technical data.
7. Mark a line across the width of the tray 105mm from the squared end.
8. Taking care to mark and cut the correct side, cut the tray flange at this point, as shown in the demonstration.
9. Cut along the line from this side to the other side but **DO NOT CUT THE FLANGE ON THE OTHER SIDE**.
10. Using 2 of M6 pins and nuts, and folding section ‘A’ under section ‘B’, fix the first set into position, as shown in the diagram.
11. **Have your work checked before proceeding.**
12. Using a straight edge and rule, mark the position of the second set at a distance of 100mm vertically from the first set.
13. Mark and cut the tray to form the second return set using the same procedure as for the first set.
14. Remove any burrs and sharp edges and recheck dimensions.
15. **Hand the work to the Lecturer for assessment.**
16. Enter the finish time on the assessment sheet.
17. Restore the work area to a satisfactory condition.

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| Task 04-050 Cable Tray Double Set Left.png |

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| Task 04-050 Cable Tray Double Set Right.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 | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| **3.** | Wore appropriate PPE | | **□** | **□** |
| **4.** | Acquired the correct materials and equipment | | **□** | **□** |
| **5.** | Overall length of section ‘A’ correct | | **□** | **□** |
| **6.** | Section ‘A’/ ‘B’ flange cut out correctly | | **□** | **□** |
| **7.** | Section ‘A’/ ‘B’ flange cut out edges smooth | | **□** | **□** |
| **8.** | Section ‘A’/ ‘B’ securely fixed (nuts on outside) | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| **9.** | Used only the given length of cable tray | | **□** | **□** |
| **10.** | Used wood blocks/other suitable tray protection | | **□** | **□** |
| **11.** | Offset ‘A’/ ‘C’ correct dimension | | **□** | **□** |
| **12.** | Overall length section ‘C’ correct | | **□** | **□** |
| **13.** | Section ‘B’/ ‘C’ flange cut out correctly | | **□** | **□** |
| **14.** | Section ‘B’/ ‘C’ flange cut out edges smooth | | **□** | **□** |
| **15.** | Section ‘B’/ ‘C’ securely fixed (nuts on outside) | | **□** | **□** |
| **16.** | Slots on tray ends intact, straight and square | | **□** | **□** |
| **17.** | All pins and nuts tight, and nuts on **outside** of tray | | **□** | **□** |
| **18.** | Cable bearing surface undamaged | | **□** | **□** |
| **19.** | Sections ‘A’/ ‘C’ parallel | | **□** | **□** |
| **20.** | Sections ‘A’/ ‘B’ flange joint gap max 2mm | | **□** | **□** |
| **21.** | Sections ‘B’/ ‘C’ flange joint gap max 2mm | | **□** | **□** |
| **22.** | Double set correct hand (left/right as specified) | | **□** | **□** |
| **23.** | Burrs, sharp edges and any vice marks removed | | **□** | **□** |
| **24.** | Overall appearance to a commercially acceptable standard | | **□** | **□** |
| **25.** | Work area conformed to requirements of HASAWA | | **□** | **□** |
| **26.** | Correct safety procedures observed at all times | | **□** | **□** |
| **27.** | Work area restored to a satisfactory condition on completion | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| Start Date & Time: ………………........………….. | | Finish Date & Time: ……...…...........…………… | | |
| Target Time: 2.5 hours | | Time Taken: …………………….........…………… | | |