204: Installation of wiring systems and enclosures  
**Worksheet 3-080: Steel trunking gusset bend**

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

**Technical data**

* All metal edges and holes must be burr-free.
* Trunking fabrications may be secured with 6mm trunking pins and nuts or pop rivets.
* 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 50 x 50 x 320mm complete with lid. |
|  | Metal cable trunking lid off-cuts for fishplates. |
| 8 off | M6 x 12mm Pan head steel trunking pins. |
| 8 off | M6 hexagon steel full nuts. |
| 8 off | Pop rivets. |

**Procedure**

1. Enter the start time on the assessment sheet.
2. Prepare the material requisition.
3. **Have the requisition checked before proceeding.**
4. Obtain the material from the stores.
5. Letter-stamp your initials on to the trunking for identification.
6. Square off and cut one end of the trunking and remove any burrs.
7. From the squared end measure a distance of 100, 200 and 300mm on the back section of the trunking.
8. Scribe a line through these marks at 90° to the trunking edge.
9. Mark out the ‘V’ shapes on the back section of the trunking at the 100 and 200m marks, and at the correct angles.
10. Extend the two outer points of the ‘V’ in order to form the rectangular shapes on one side of the trunking.
11. At the 300mm mark square off and cut end of trunking.
12. **Have the work checked before proceeding.**
13. Cut along the lines in order to remove both the ‘V’ and the rectangular sections.
14. Ensure all burrs and sharp edges are removed.
15. **Have the work checked before proceeding.**
16. Fold the trunking to form the 90° bend.
17. Using the trunking off-cuts, manufacture two appropriately sized fishplates to secure the bends in the required position.
18. Remove any burrs and sharp edges.
19. **Have the work checked before proceeding.**

(Procedure 3-080 continued from previous page)

1. Hold the fishplates in position on the bend and secure together with pop rivets.
2. Mark and drill the end fixing holes in the correct position.
3. Mark out and cut to shape the trunking lid in order to fit the manufactured bend.
4. Fold and secure in position with appropriately sized fishplates (made from trunking off-cuts) and pop rivets.
5. Check overall fit of the bend and lid, and ensure that all burrs and sharp edges are removed.
6. **Hand the work to the Lecturer for marking and assessment.**
7. Enter the finish time on the assessment sheet.

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| --- |
| Exercise 03-080 Trunking Gusset Bend.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.** | End 1 of trunking square and burr-free | | **□** | **□** |
| **4.** | Bend 1 marked out correctly from squared end | | **□** | **□** |
| **5.** | Bend 1 marked out correctly on both back and sides | | **□** | **□** |
| **6.** | Bend 2 marked out correctly from squared end | | **□** | **□** |
| **7.** | Bend 2 marked out correctly on both back and sides | | **□** | **□** |
| **8.** | Work correctly identified on first presentation | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| **9.** | Both bend sections removed correctly and burr-free | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| **10.** | Fishplates acceptable size and burr-free | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| **11.** | Used only the given length of trunking and lid | | **□** | **□** |
| **12.** | Bend securely fixed using fishplates, pins and nut | | **□** | **□** |
| **13.** | Pins and nuts tight and in acceptable position | | **□** | **□** |
| **14.** | Overall dimensions correct (± 5mm) | | **□** | **□** |
| **15.** | Completed angle 90° | | **□** | **□** |
| **16.** | End fixing holes correct position and size | | **□** | **□** |
| **17.** | Lid fishplates acceptable size and burr-free | | **□** | **□** |
| **18.** | Lid correctly made and fits trunking bend correctly | | **□** | **□** |
| **19.** | Trunking and lid ends square and undamaged | | **□** | **□** |
| **20.** | Burrs, sharp edges and any vice marks removed | | **□** | **□** |
| **21.** | Work area conformed to the Health & Safety at Work Act | | **□** | **□** |
| **22.** | Correct safety procedures observed at all times | | **□** | **□** |
| **23.** | Overall appearance to a commercially acceptable standard | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| Start Date & Time: ………………........………….. | | Finish Date & Time: ……...…...........…………… | | |
| Target Time: 3 hours | | Time Taken: …………………….........…………… | | |