

Worksheet 3-100: Trunking and conduit assembly

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

Technical data

- All damaged and marked surfaces must be restored to a sound condition on completion.
- All joints between trunking and conduits must be both mechanically and electrically sound.
- You are to make sure that all your work conforms to the requirements of the Health and Safety at Work Act.
- In being assessed, the following points will be considered:
 1. positioning
 2. continuity of cpc
 3. standard of assembly
 4. appearance
 5. safety.

Note: You are required to work on this exercise jointly with the other trainee in the same cubicle. This requires you, first of all, to jointly assess the exercise requirements and to jointly carry them out to the best of your combined capabilities.

This exercise assembles work pieces retained from previous exercises and you should ensure that you have completed **all** previous (3-...) worksheets before commencing assembly.

Material required

See separate sheet for description of material requirements.

Procedure

1. Enter the start time on the assessment sheet.
2. Prepare the material requisition (remember to specify actual quantities required for all items; you will also need fixings for the conduit, trunking and accessories).
3. **Have the requisition checked before proceeding.**
4. Obtain the material from the stores.
5. Mark, drill and fix a straight piece of metal cable trunking in the centre of the back wall under the pre-fixed consumer unit, ensuring that the distance to the back of the trunking measures 60mm.
6. Mark, drill and fix the trunking double set (Worksheet 3-090) to **YOUR** side of the trunking erected in Procedure 5.
7. Mark the position for the trunking 90° bend (Exercise 3-070) and measure the length of the trunking required to join this bend and the double set together.
8. Cut to length, drill holes in this trunking and then assemble together, fixing into your side of the cubicle.
9. Mark the position of the trunking 2 x 45° bend (Exercise 3-080) and join to the 90° bend using a piece of trunking.
10. Fix another piece of trunking to the other end of the bend (Exercise 3-080) to complete the trunking to the finished dimensions shown on the diagram.
11. Ensure that all items fixed as detailed above are securely fitted together and securely fixed to the cubicle walls.
12. **Have your work checked before proceeding.**

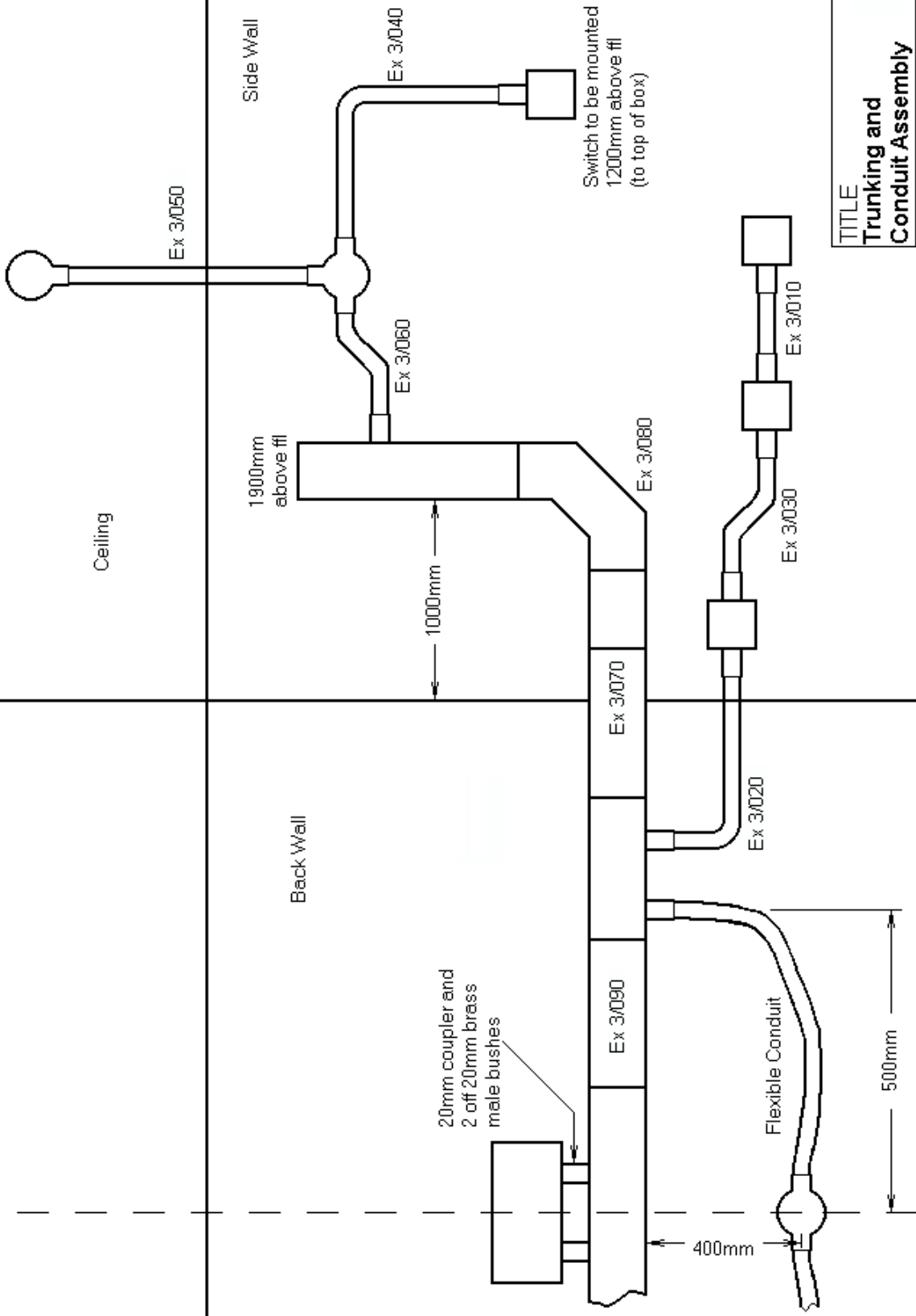
13. Mark the position of the 20mm hole for the correct location of the steel conduit back-to-back 90° bends (Exercise 3-020), as indicated on the diagram.
14. Mark the position of the 20mm hole for the 20mm flexible conduit.
15. Mark the position of the 20mm hole for the correct location of the PVC conduit double set (Exercise 3-060).
16. **Have your work checked before proceeding.**
17. Drill all 20mm holes and ensure that all burrs and sharp edges are removed.
18. Fix the conduits, conduit boxes, switch and socket outlet boxes in the positions indicated on the diagram, inserting/trimming the lengths in order to fit the system together accurately.
19. Ensure that all metal conduits, PVC conduits, metal trunking, PVC trunking, switch boxes and sockets outlet boxes are securely fixed in their correct positions.
20. Check the whole installation for sharp edges, burrs and swarf, and rectify as necessary.
21. **Have your work checked and assessed before proceeding.**
22. Enter the finish time on the assessment sheet.
23. Proceed to next Worksheet 3-110.

Material Information

- Previous exercises, as detailed on drawing
- 50 x 50mm trunking couplers
- 50 x 50mm metal trunking
- Surface steel single socket outlet boxes
- 20mm conduit black enamel couplings
- 20mm conduit brass male bushes
- 20mm steel conduit lock rings
- 20mm circular black enamel conduit boxes
- 20mm PVC adaptors
- 20mm circular PVC conduit boxes
- Surface mounting moulded plastic switch box
- 20mm flexible conduit
- 20mm flexible conduit glands
- Trunking fixing pins/nuts, masonry fixings, etc. Sizes and quantities to be determined from previous knowledge and exercise information.

This exercise MUST be bonded to earth

Note: Not To Scale

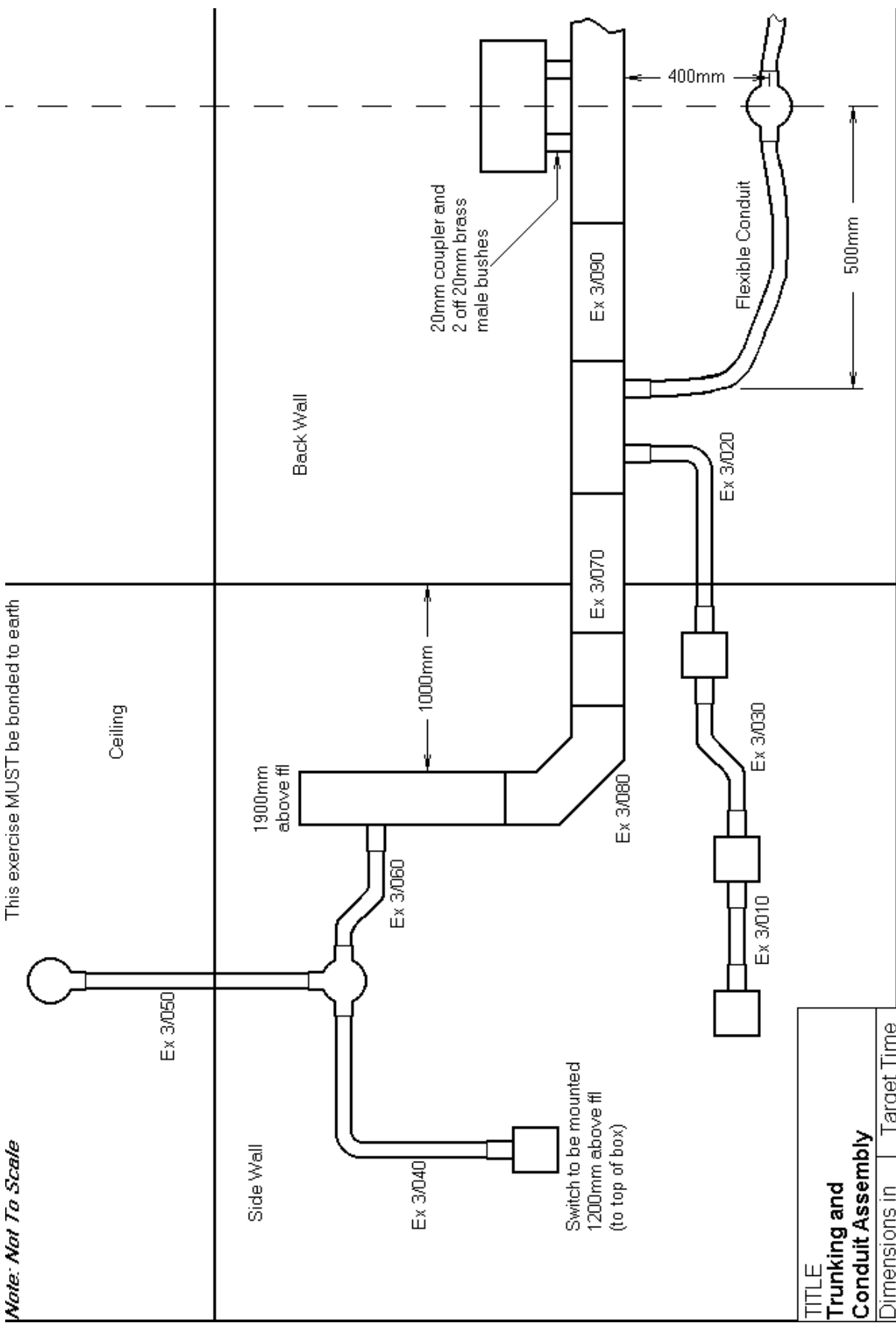


TITLE
Trunking and Conduit Assembly

Dimensions in Millimeters	Target Time 6 hrs.
Scale N.T.S.	Ex No. 3/100

Note: Not To Scale

This exercise MUST be bonded to earth



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Trunking and Conduit Assembly	
Dimensions in Millimeters	Target Time 6 hrs.
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Assessments are based on **observed** safety procedures, and the **quality** and **accuracy** of the completed exercise.

		YES	NO
1.	Material requisition correct first time	<input type="checkbox"/>	<input type="checkbox"/>
2.	Method statement completed	<input type="checkbox"/>	<input type="checkbox"/>
	Assessed by:		
3.	Centre straight piece of trunking fixed securely and level	<input type="checkbox"/>	<input type="checkbox"/>
4.	Double set securely fixed to centre straight piece of trunking	<input type="checkbox"/>	<input type="checkbox"/>
5.	90° bend installed in correct position	<input type="checkbox"/>	<input type="checkbox"/>
6.	Trunking back wall positioned level	<input type="checkbox"/>	<input type="checkbox"/>
7.	2 x 45° bend secured in correct position	<input type="checkbox"/>	<input type="checkbox"/>
8.	All wall fixings secure and satisfactory	<input type="checkbox"/>	<input type="checkbox"/>
9.	All trunking pieces coupled correctly	<input type="checkbox"/>	<input type="checkbox"/>
10.	Burrs and sharp edges all removed	<input type="checkbox"/>	<input type="checkbox"/>
11.	All trunking pieces square and level	<input type="checkbox"/>	<input type="checkbox"/>
12.	Overall appearance of trunking to a commercially acceptable standard	<input type="checkbox"/>	<input type="checkbox"/>
	Assessed by:		
13.	20mm hole for steel conduit in correct position	<input type="checkbox"/>	<input type="checkbox"/>
14.	20mm hole for flexible conduit in correct position	<input type="checkbox"/>	<input type="checkbox"/>
15.	20mm hole for PVC conduit in correct position	<input type="checkbox"/>	<input type="checkbox"/>
	Assessed by:		
16.	20mm holes drilled in correct position	<input type="checkbox"/>	<input type="checkbox"/>
17.	20mm holes all burr-free	<input type="checkbox"/>	<input type="checkbox"/>
18.	Socket boxes securely fixed	<input type="checkbox"/>	<input type="checkbox"/>
19.	Socket boxes level	<input type="checkbox"/>	<input type="checkbox"/>
20.	Steel conduit pieces securely fixed in to boxes	<input type="checkbox"/>	<input type="checkbox"/>
21.	Steel conduit pieces adequately supported, ie saddles	<input type="checkbox"/>	<input type="checkbox"/>
22.	'Motor' through box correctly fixed and in correct position	<input type="checkbox"/>	<input type="checkbox"/>
23.	Flexible conduit correctly made off	<input type="checkbox"/>	<input type="checkbox"/>
24.	Flexible conduit correctly secured into enclosures	<input type="checkbox"/>	<input type="checkbox"/>
25.	Lighting boxes securely fixed	<input type="checkbox"/>	<input type="checkbox"/>
26.	Lighting boxes level	<input type="checkbox"/>	<input type="checkbox"/>
27.	PVC conduit pieces securely fixed in to boxes	<input type="checkbox"/>	<input type="checkbox"/>

- 28. PVC conduit pieces adequately supported, ie saddles
- 29. Trunking lid is correct size with minimum joints
- 30. Burrs and sharp edges removed from lid

Assessed by:

- 31. Used only the materials specified in the material requisition
- 32. Overall dimensions correct ($\pm 5\text{mm}$)
- 33. Work area conformed to the Health & Safety at Work Act
- 34. Correct safety procedures observed at all times
- 35. Overall appearance to a commercially acceptable standard

Assessed by:

Start Date & Time: Finish Date & Time:

Target Time: 6 hours Time Taken: