204: Installation of wiring systems and enclosures  
**Worksheet 3-110: Trunking and conduit wiring**

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

**Technical data**

* All electrical installations must comply with the current edition of BS 7671 (IET Regulations).
* An Electrical Installation Certificate and associated Schedules of Inspections and Test Results must be produced for this wiring installation. These documents will form part of the overall assessment of this exercise.
* 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. circuit diagram
2. inspection and testing
3. cable and accessory installation
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**

The completion of the previous worksheet (3-100) is essential before attempting this composite exercise.

Study the working diagram, procedure and circuit diagram for the materials required in order to complete the installation.

**Procedure**

1. Enter the start time on the assessment sheet.
2. Study the diagram and from it draw the circuit diagram and prepare the material requisition (this procedure needs to be completed by **both** trainees in a cubicle before proceeding).
3. **Have the diagram and material requisition checked before proceeding.**
4. Obtain the material from the stores.
5. Carry out the installation (take note of the circuit information at the end of the next sheet and on the layout diagram).
6. This installation must meet the requirements of BS 7671 with regard to bonding. You should now obtain the necessary bonding cable and clips, and bond the installation to the simulated main incoming services adjacent to your work area. This procedure needs to be undertaken jointly by both trainees in the same work area.
7. Jointly carry out the necessary tests on the installation and record all readings obtained on the Schedules of Inspections and Test Results.
8. Complete the Electrical Installation Certificate.
9. Both trainees must have completed the installation and the necessary testing before proceeding.
10. **Notify the Lecturer that your work is ready for assessment.**
11. After assessment, remove all your work from the cubicle and return all reusable materials to the stores under Lecturer supervision.
12. On satisfactory recovery of materials, get the Lecturer to enter the finish time on the assessment sheet.

**Note**

* Socket outlets are to be fed from fuse‑way 1 in the consumer unit and wired as a complete ring final circuit for both trainees, taking the cable between left- and right-hand sides of the cubicle through the flexible conduit link.
* Left-hand side lighting circuit to be fed from fuse‑way 2.
* Right-hand side lighting circuit to be fed from fuse‑way 3.
* Care must be taken to colour code all live conductors correctly.
* All protective conductors to be at least 2.5mm2.

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| --- |
| Exercise 03-110 Trunking and Conduit Wiring (b).png |

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| Exercise 03-110 Trunking and Conduit Wiring (a).png |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | **YES** | **NO** |
| **1.** | Circuit diagram function correct | | **□** | **□** |
| **2.** | Circuit diagram drawn neatly | | **□** | **□** |
| **3.** | Circuit diagram drawn using correct symbols | | **□** | **□** |
| **4.** | Circuit diagram labelled correctly | | **□** | **□** |
| **5.** | Material requisition correct first time | | **□** | **□** |
| **6.** | Method statement completed | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| **7.** | Inspection and testing completed correctly | | **□** | **□** |
| **8.** | Test results correctly recorded | | **□** | **□** |
| **9.** | Electrical Installation Certificate correctly completed | | **□** | **□** |
| **10.** | Accessory covers all fixed securely | | **□** | **□** |
| **11.** | Correct sized cable used | | **□** | **□** |
| **12.** | Circuit functions correctly | | **□** | **□** |
| **13.** | Consumer unit correctly connected | | **□** | **□** |
| **14.** | Consumer unit correct size protective device | | **□** | **□** |
| **15.** | cpc sheathed correctly | | **□** | **□** |
| **16.** | Conductors connected to correct terminations | | **□** | **□** |
| **17.** | Suitable amount of spare cable left in accessories | | **□** | **□** |
| **18.** | Conductor insulation undamaged at terminations | | **□** | **□** |
| **19.** | Conductors doubled as appropriate and secure | | **□** | **□** |
| **20.** | Sheath/insulation stripped to correct position | | **□** | **□** |
| **21.** | Conductors undamaged at terminations | | **□** | **□** |
| **22.** | Installation bonded satisfactorily | | **□** | **□** |
| **23.** | Overall appearance to a commercially acceptable standard | | **□** | **□** |
| **24.** | Work area conformed to requirements of HASAWA | | **□** | **□** |
| **25.** | Correct safety procedures observed at all times | | **□** | **□** |
| Assessed by: ………....………….. | | |  | |
| Start Date & Time: ………………........………….. | | Finish Date & Time: ……...…...........…………… | | |
| Target Time: 3 hours | | Time Taken: …………………….........…………… | | |