

**SCHEDULE OF INSPECTION AND TESTING OF LV WIRINGS OF INSTALLATION**

**A) INSPECTION DURING SUPERVISION AND COMPLETION OF INSTALLATION**

1) <input type="checkbox"/> Connection of conductors	9) Method of protection against indirect contact <input type="checkbox"/> Presence of protective conductors <input type="checkbox"/> Presence of earthing conductors <input type="checkbox"/> Presence of main equipotential bonding conductors <input type="checkbox"/> Earthing arrangements for combined protective and functional earths <input type="checkbox"/> Presence of main equipotential bonding conductors <input type="checkbox"/> Use of Class II equipment or equivalent insulation <input type="checkbox"/> Non conducting location <input type="checkbox"/> Earth free local equipotential bonding <input type="checkbox"/> Electrical separation	11) <input type="checkbox"/> Presence of appropriate devices for isolation and switching 12) <input type="checkbox"/> Presence of undervoltage protective devices where appropriate 13) <input type="checkbox"/> Choice and setting of protective and monitoring services (for protection against indirect contact and/or against overcurrent) 14) <input type="checkbox"/> Labelling of fuses, switches and terminals 15) <input type="checkbox"/> Selection of equipment and protective measures appropriate to external influences 16) <input type="checkbox"/> Adequacy of access to switchgear and equipment 17) <input type="checkbox"/> Presence of danger notices and other warning notices 18) <input type="checkbox"/> Presence of diagrams instructions and necessary information 19) <input type="checkbox"/> Erection methods
2) <input type="checkbox"/> Identification of conductors		
3) <input type="checkbox"/> Routing of cables in safe zones or within mechanical protection		
4) <input type="checkbox"/> Selection of conductors for current and voltage drop		
5) <input type="checkbox"/> Connection of single pole devices for protection or switching in phase conductors only		
6) <input type="checkbox"/> Correct connection of socket outlets and lamp holders		
7) <input type="checkbox"/> Presence of barriers and protection against thermal effects		
8) Method of protection against direct contact <input type="checkbox"/> Insulation of live parts <input type="checkbox"/> Barrier or enclosure <input type="checkbox"/> Placing out of reach <input type="checkbox"/> Obstacles	10) <input type="checkbox"/> Prevention of mutual detrimental influence	

*To indicate satisfaction with inspection*

**Observation and Recommendations during inspection:**  
.....  
.....

**Signature:** \_\_\_\_\_

**Holder of EIC Certificate:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Company Chop:** \_\_\_\_\_

**B) TESTING – NOTES ON TEST RESULT SCHEDULE**

- 1 Type of supply system is ascertained from the supply authority or by inspection.
  - 6 Prospective short circuit current is the greater of the short-circuit current and earth fault current.
  - 7  $Z_e$ , the external impedance measured at the origin of the installation with the main bonding disconnected.
  - 13 The breaking capacity of the device is noted.
- Test shall be carried out in the sequence below and results recorded on the test result schedule.**
- 17 Continuity  
During the continuity testing the following polarity checks are carried out, that:-  
a) every fuse and single pole control and protective device is connected in the phase conductor only.  
b) centre-contact bayonet and Edison screw lamp holders have the outer contact or screwed contacts connected to the neutral conductor.  
c) Wiring is correctly connected to socket outlets.  
Indicate compliance in polarity under column 25.  
Continuity of protective conductors - Every protective conductor including bonding conductors shall be tested to verify it is sound and correctly connected.  
Continuity of final circuit conductors - The sum of the resistance of the of the phase conductor ( $R_1$ ) and the protective conductor ( $R_2$ ) i.e.  $R_1 + R_2$ , is to be inserted in column 17. This may be use, after temperature correction, by adding to  $Z_e$ , to determine  $Z_s$ .
  - 18 Where continuity test involve measuring protective conductor at various points to the main earthing terminal, the maximum value of  $R_2$ . Where the alternative method of Regulation 413-02-12 (IEE Wiring Regulations) is used for shock protection, the resistance of the circuit protective conductor  $R_2$  is measured and recorded in column 18.
  - 19 A test shall be made to verify the continuity of each conductor including the protective conductor of every ring circuit, and a satisfactory test indicated by a tick.
  - 20 - 24 Insulation resistance  
Equipment such as electronic devices shall, where necessary, be disconnected from the installation to avoid damage during testing. Where required, such equipment shall be tested separately.  
The insulation resistance required for the main switchboard, and each distribution circuit tested separately with all final circuits connected, but current using equipment disconnected, shall comply with the values in IEE Wiring Regulations.  
The minimum value for the insulation resistance is 1 M $\Omega$  measured with 500 V dc test voltage.
- All the preceding tests should be carried out before the installation is energized.**
- 25 Polarity – Following the energising of the installation, polarity must be checked before further testing.
  - 26 Earth fault loop impedance,  $Z_s$   
This may be determined either by direct measurement at the further point of a live circuit OR by adding ( $R_1 + R_2$ ) of column 17 to  $Z_e$  (see note 7).  
i.e.  $Z_s = Z_e + (R_1 + R_2)$ . In general, the earth fault loop impedance shall not exceed 100  $\Omega$ .
  - 27 - 31 Residual current devices (rcd) Testing  
The operation of main and supplementary rcds shall be tested by simulating a fault condition, independent of any test facility in the device. For 100mA main rcd tested at **50% rated** tripping current, **no tripping** for 2s and at **100% rated** tripping current, tripping shall be within 200 ms. For 30 mA supplementary rcd, tripping time shall be within 40ms tested at five times the rated tripping current (150 mA).
  - 32 Earth electrode resistance  
The earth electrode resistance of the installation must be measured and the value recorded.

