

SUPERVISION AND COMPLETION / TEST CERTIFICATE
(LOW VOLTAGE ELECTRICAL WIRING)
THE ELECTRICITY RULES, 1999
RULES 12 AND 13

Reference Number: _____

PART 1: OWNER / MANAGEMENT OF INSTALLATION

To: _____

 _____ Postcode: _____
 (Name & Address of owner / management of installation)

PART 2: LOCATION AND DETAILS OF INSTALLATION

Client : _____
 Address/ Lot No. of Installation : _____
 _____ Postcode: _____
 Type of Installation: _____ New Installation* / Alteration* /Extension* of Existing Installation
 (eg domestic house, shophouse, apartment, etc) First Test* / Re-Test*

PART 3: SCHEDULE OF DRAWINGS FOR SUPERVISION AND COMPLETION

The electrical work listed in these drawings has been supervised and completed in accordance with The Electricity Rules, 1999.

<u>No</u>	<u>Drawing Number</u>	<u>Drawing Title</u>
1.		
2.		
3.		
4.		
5.		

(Please use separate sheet(s) if insufficient space)

PART 4: SUPERVISION AND COMPLETION

I, being the person responsible (as indicated by my signature below) for the supervision and completion of the electrical work at the above installation in Part 2, particulars of which are described in the Schedule of Drawings in Part 3, **CERTIFY** that the said work for which I have been responsible, is to the best of my knowledge and belief, in accordance with The Electricity Rules, 1999.

The extent of liability of the signatory is limited to the electrical installation described above in Part 2 as the subject of this Certificate.

For the supervision and completion of the electrical installation:

Holder of **Electrical Installation Contractor (EIC)** Certificate : _____
 (name in BLOCK letters)

For and on behalf of : _____ **Company Chop:**
 (name of Business)

Address : _____
 _____ Postcode: _____

Certificate of Registration No: _____ Expiry Date: _____

Signature of Holder: _____ Date: _____

PART 5: SCHEDULE OF DRAWINGS FOR TESTING

The electrical work listed in these drawings has been tested in accordance with The Electricity Rules, 1999.

<u>No</u>	<u>Drawing Number</u>	<u>Drawing Title</u>
1.		
2.		
3.		
4.		
5.		

(Please use separate sheet(s) if insufficient space)

* Delete whichever is not applicable

PART 6: SCHEDULE OF TEST RESULTS

- 1.
- 2.
- 3.
- 4.
- 5.

(Please use separate sheet(s) if insufficient space)

PART 7: TEST

I, being the person responsible (as indicated by my signature below) for the testing of the installation at the above installation in Part 2, particulars of which are described in the Schedule of Drawings in Part 5 and Schedule of Test Results in Part 6 **CERTIFY** that the above installation which I have been responsible, is to the best of my knowledge and belief in accordance with The Electricity Rules, 1999, and that the above installation is ready and safe to receive energy from or be given energy by the licensee or supply authority, as the case may be. The extent of liability of the signatory is limited to the installation described above in Part 2 as the subject of this Certificate.

For the test of the installation:

Holder of **Electrical Installation Contractor (EIC) Certificate** : _____
(name in **BLOCK** letters)

For and on behalf of : _____ **Company Chop:**
(name of Business)

Address : _____

Postcode: _____

Certificate of Registration No: _____ Expiry Date: _____

Signature of Holder: _____ Date: _____

PART 8: ACCEPTANCE TO SUPPLY

The above installation in Part 2 is hereby accepted for supply of electrical energy.

Signature: _____ Name : _____
(Authorised by Licensee or supply authority to sign)

On behalf of : _____ Date: ____/____/____
(Name of Licensee or supply authority) dd mm yy

NOTES:

1. The Supervision and Completion part of this Certificate required by Rule 12 of The Electricity Rules, 1999, shall be made out and signed by the **holder of the Electrical Installation Contractor (EIC) Certificate** in respect of the supervision and completion of the electrical work.
2. The Testing part of this Certificate required by Rule 13 of The Electricity Rules, 1999, shall be made out and signed by the **holder of the Electrical Installation Contractor Certificate authorized to carry out testing** in respect of the test of the installation. The holder of the Electrical Installation Contractor carrying out the test may be the same person carrying out the supervision and completion of the installation.
3. This Certificate will indicate the responsibility for supervision and completion, and testing of the electrical work, whether in relation to a new installation or further work on an existing installation.
4. When making out and signing a certificate on behalf of a company or other business entity, an individual shall state for whom he is acting.
5. Additional certificates may be required as clarification for larger or complicated electrical work.
6. The signature(s) appended is (are) that of the person(s) authorized by the company executing the work of supervision and completion, and testing of the electrical work.
7. The page numbers of each sheet should be indicated together with the total number of the sheets involved.
8. Each drawing listed in the Schedule of Drawings for Supervision and Completion, and for Testing shall indicate clearly the name, signature and certificate number of the contractor or competent person preparing it in accordance with Rule 64 of The Electricity Rules, 1999.
9. The owner or management of the electrical installation shall submit this Certificate to the licensee or supply authority in Sarawak, as the case may be, in order to receive energy from the licensee or supply authority.
10. On receipt of the said Certificate, the licensee or supply authority shall henceforth supply energy as requested by the owner or management of the installation.
11. This Certificate shall be transferred to the new owner or management where there is change in ownership or management of the property.

SCHEDULE OF INSPECTION AND TESTING OF LV WIRINGS OF INSTALLATION

A) INSPECTION DURING SUPERVISION AND COMPLETION OF INSTALLATION

<p>1) <input type="checkbox"/> Connection of conductors</p> <p>2) <input type="checkbox"/> Identification of conductors</p> <p>3) <input type="checkbox"/> Routing of cables in safe zones or within mechanical protection</p> <p>4) <input type="checkbox"/> Selection of conductors for current and voltage drop</p> <p>5) <input type="checkbox"/> Connection of single pole devices for protection or switching in phase conductors only</p> <p>6) <input type="checkbox"/> Correct connection of socket outlets and lamp holders</p> <p>7) <input type="checkbox"/> Presence of barriers and protection against thermal effects</p> <p>8) Method of protection against direct contact</p> <p style="margin-left: 20px;"><input type="checkbox"/> Insulation of live parts</p> <p style="margin-left: 20px;"><input type="checkbox"/> Barrier or enclosure</p> <p style="margin-left: 20px;"><input type="checkbox"/> Placing out of reach</p> <p style="margin-left: 20px;"><input type="checkbox"/> Obstacles</p>	<p>9) Method of protection against indirect contact</p> <p style="margin-left: 20px;"><input type="checkbox"/> Presence of protective conductors</p> <p style="margin-left: 20px;"><input type="checkbox"/> Presence of earthing conductors</p> <p style="margin-left: 20px;"><input type="checkbox"/> Presence of main equipotential bonding conductors</p> <p style="margin-left: 20px;"><input type="checkbox"/> Earthing arrangements for combined protective and functional earths</p> <p style="margin-left: 20px;"><input type="checkbox"/> Presence of main equipotential bonding conductors</p> <p style="margin-left: 20px;"><input type="checkbox"/> Use of Class II equipment or equivalent insulation</p> <p style="margin-left: 20px;"><input type="checkbox"/> Non conducting location</p> <p style="margin-left: 20px;"><input type="checkbox"/> Earth free local equipotential bonding</p> <p style="margin-left: 20px;"><input type="checkbox"/> Electrical separation</p> <p>10) <input type="checkbox"/> Prevention of mutual detrimental influence</p>	<p>11) <input type="checkbox"/> Presence of appropriate devices for isolation and switching</p> <p>12) <input type="checkbox"/> Presence of undervoltage protective devices where appropriate</p> <p>13) <input type="checkbox"/> Choice and setting of protective and monitoring services (for protection against indirect contact and/or against overcurrent)</p> <p>14) <input type="checkbox"/> Labelling of fuses, switches and terminals</p> <p>15) <input type="checkbox"/> Selection of equipment and protective measures appropriate to external influences</p> <p>16) <input type="checkbox"/> Adequacy of access to switchgear and equipment</p> <p>17) <input type="checkbox"/> Presence of danger notices and other warning notices</p> <p>18) <input type="checkbox"/> Presence of diagrams instructions and necessary information</p> <p>19) <input type="checkbox"/> Erection methods</p>
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To indicate satisfaction with inspection

Observation and Recommendations during inspection:

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Signature : _____ **Company Chop:**

Holder of EIC Certificate : _____

Date : _____

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 Ω 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 Ω .
 - 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.

