

Risk Element

- Electrocuting;
- Electric shock;
- Fire;
- Explosion.

Precautions to Eliminate/reduce Risk

- Wear correct personal protective equipment;
- When working in isolated area(s) ensure other persons are available to render assistance if required;
- Always ensure that section(s) of electrical system being worked are satisfactorily isolated;
- Safe systems of work (permits to work);
- Ensure satisfactory working space.

Action in an Emergency

- Switch off and isolate electrical supply;
- Remove injured person(s) from danger area (if without risk);
- Render first aid;
- Call emergency services.

Safe Working Method

NOTE: Reference should be made to the I.E.E. Regulations (BS7671) and the Electricity at Work Regulation 1989 before implementing these procedures.

Before proceeding with any inspection and testing of the equipment, ensure there is adequate access and working space available to the equipment (Regulation 15 EWA 1989) with the equipment isolated electrically.

A physical inspection of the equipment should be made to ensure that joints in conduit, trunking and armoured cables are correctly made to ensure earth continuity, other items to be included in the checks are:

- All connections are tight;
- That each circuit has a means of isolation;
- That all removable barriers have been replaced;
- That labels identifying purpose of switchgear, control gear and safety devices have been installed where confusion would occur as to which item controlled which equipment;
- That warning notices have been fixed where the voltages exceeding 250 volts in equipment would not normally be expected to exist;
- That the equipment is protected against corrosion, vibration and any other form of environmental condition.

Testing: Having completed a physical check of the electrical equipment and components, the following tests should be carried out:

- Continuity of live conductors including the neutral;
- Continuity of protective conductors including equipotential bonding conductors;
- Insulation resistance of all live conductors to earth;
- Insulation resistance between live conductors;
- Polarity to ensure all switches are connected in the phase conductor and not the neutrals;
- Phase earth loop impedance tests;
- Operation of MCCB and RCD devices.

To enable these tests to be carried out, the operator needs to be competent in application and use of the following instruments:

- Insulation tester minimum voltage 500 volts;
- Phase earth loop impedance tester;
- RCD tester;
- MCB, MCCB tester;
- Continuity tester;
- Polarity tester.

A safe code of practice is required to ensure that the equipment is fully isolated before work commences and that wiring diagrams are available. That the appropriate instruments are used and that they are maintained to comply with regulations.