

1. Electrical Concepts

- 1.1 Magnetism
- 1.2 Electrical Terms
- 1.3 Conductors and Insulators
- 1.4 Relationships (Ohms Law)
- 1.5 Series and Parallel Circuits
- 1.6 Electrical Power
- 1.7 Inductors
- 1.8 Direct and Alternating Current
- 1.9 Rectifiers
- 1.10 Single Phase Motors
- 1.11 Three Phase Motors

2. Safe Isolation

- 2.1 Electric Shock
- 2.2 Body Resistance
- 2.3 Removing Persons from Live Conductors
- 2.4 First Aid
- 2.5 Electrical Isolation
- 2.6 Test Lamps and Proving Units

3. Instrumentation

- 3.1 Measurement of Voltage, Current and Resistance
- 3.2 Analogue and Digital displays
- 3.3 Meter Calibration
- 3.4 Battery Condition and Continuity of Test Leads
- 3.5 Earth Continuity Testing
- 3.6 Insulation Resistance Testing

4. Electrical Regulations

- 4.1 Electricity at Work Regulations 1989
- 4.2 Electricity Supply Regulations 1988
- 4.3 The Low Voltage Electrical Equipment (Safety) Regulations 1989
- 4.4 Health and Safety at Work Act 1974

5. Supply Systems

- 5.1 The Distribution System
- 5.2 AC Supply
- 5.3 Electricity into the Building
- 5.4 Control and Protection Equipment
- 5.5 Identification Notices
- 5.6 BS 4343 Plugs and Sockets

6. Earthing and Bonding

- 6.1 Earthing Arrangements
- 6.2 Earthed Equipotential Bonding
- 6.3 Types of Circuit Protective Conductors
- 6.4 Supplementary Bonding Conductors
- 6.5 Temporary Continuity Bonding

7. Termination Skills

- 7.1 Stripping Insulated Cables
- 7.2 Types of Terminals
- 7.3 Identification of Conductors
- 7.4 Termination Tooling

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8. Electrical Safety

- 8.1 Electrical Safety Checks
- 8.2 PAT Testing
- 8.3 RCD Protection
- 8.4 CPC Continuity
- 8.5 Insulation Resistance
- 8.6 Polarity (Dead Test)
- 8.7 Polarity (Live Test)
- 8.8 Earth Loop Impedance Testing

9. Electrical Controls

- 9.1 Thermostats
- 9.2 Pressure Controls
- 9.3 Relays and Contactors