

## Safe Isolation – Authorised Person Practical Workshop

**Duration:** 1 Day

**Format:** Practical training with worked examples and case studies

**Assessment:** Practical Assessment (Pass/ Fail)

**Course Handout**

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### Course Overview

This intensive 1-day course is designed specifically for Authorised Persons responsible for physically implementing isolations on LV electrical Apparatus and associated mechanical Plant systems.

The course focuses on:

- Correct identification of isolation points
- Practical operation of LV switching devices
- Immobilising and Caution Notices
- Prove–Test–Prove procedures
- Isolation of motors, panels, MCCs, and VSD systems
- Mechanical / Process / Plant isolation
- Verification of Isolation

This is not a theoretical electrical course. It is a practical isolation execution course aimed at improving decision-making, hazard recognition, and verification discipline in real installations.

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### Course Objectives

By the end of this course, delegates will be able to:

- Identify correct isolation points on LV distribution systems.
- Safely operate and secure:
  - Withdrawable ACBs /Fixed ACBs
  - MCCBs / MCBs / RCBO's / RCD's
  - Rotary isolators
  - Fused switch disconnectors
- Recognise auxiliary, DC, UPS, generator, and stored energy hazards.
- Correctly immobilise, apply caution notice, and demarcate.
- Testing for Dead using compliant equipment.
- Isolate Motors, Actuators, MCC's, VSDs and Control Panels.
- Apply mechanical isolation principles including valve types, double block & bleed, draining and venting, purging and dissipating of stored energy

## Course Schedule (Summary)

- **Day 1 – Foundations of Safe Isolation (LV and Plant)**

### Safety Rules Overview, Legal & Procedural Context (Condensed – 45 mins)

- Electro-Mechanical Safety Rules Overview
  - Electricity at Work Regulations (Reg 13 focus)
  - HSG85 – Safe Isolation
  - Safety from the System (AP responsibilities)
  - Incident case examples (back feeds, incorrect identification)
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### LV Electrical Isolation – Practical Focus (2.5 Hours)

#### Isolation Devices Covered

- Withdrawable ACBs (connected / test / isolated positions)
- Fixed ACBs
- MCCBs & MCBs
- Rotary isolators
- Fused switch disconnectors

#### Practical Topics

- Identifying line vs load side
- Busbar sections and interconnections
- Dual supplies & changeovers
- Control circuit isolation
- Stored energy in spring mechanisms
- Removing fuses where required

#### Testing For Dead

- Approved voltage indicators: Prove-Test-Prove
  - Phase-to-phase and phase-to-earth testing
  - Induced and phantom voltages
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### Isolation of Motors, MCCs & Drives (1 Hour)

- Motor feeder isolation / Star/delta starters
- VSD front end supplies / Capacitors / Inductors / Filters

- DC link hazards
  - Control back-feeds
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### **Mechanical / Process Isolation (1.5 Hours)**

This section replaces some of the removed theory from the 2-day course.

#### **Valve Types & Isolation Behaviour**

- Gate valves (passing risk)
- Ball valves (positive shut indication)
- Butterfly valves (leakage expectations)

#### **Mechanical Isolation Principles**

- Double block & bleed
  - Draining and venting and purging
  - Stored Energy Risk
  - Spades and blanks
  - Verification of zero energy state
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### **Practical Exercises & Assessment (Final 60–90 mins)**

Delegates complete:

- Electrical isolation scenario
- Mechanical isolation identification task
- Prove–Test–Prove demonstration

#### **Who Should Attend**

- Authorised Persons
- Aspiring Authorised Persons or AP refresher
- Maintenance personnel and supervisors

This course is intended for personnel involved in isolation, maintenance, testing, fault finding, or supervision of work on LV plant and apparatus.

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For questions or follow-up, please contact:

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