



## Unit 2 How to carry out an Electrical Design Project

### Electrical testing

The installation of electrical equipment requires a number of tests.

The reasons for testing the installation include:

- to ensure the installation complies with the regulations;
- to ensure the installation meets specifications;
- to ensure that the installation is safe to use.

Those who are to carry out the electrical tests must first consider the following safety factors:

- all safety precautions must be put in place before testing begins;
- everyone must be notified that the test process is about to take place;
- the relevant circuits and equipment must have been identified;
- safe isolation procedures must have been carried out;
- those who are to carry out the test must be competent to do so.

It is preferable that all electrical sources have been turned off and all wires are dead before work commences. However, some work, such as fault-finding and testing, may require the electrical equipment to remain electrically charged. Therefore, if the fault-finding and testing can only be successfully carried out “live”, then the person carrying out the fault diagnosis must:

- be trained so that he understands the equipment and the potential hazards of working with live electrical wires and components and can, therefore, be considered competent to carry out the activity;
- only use approved testing equipment;
- set up barriers and warning notices so that the work activity does not create a situation dangerous to others.

[Adapted from Trevor Linsley, *Basic Electrical Installation Work*, Newnes, 2011]





### Understanding the text

**1. Find expressions in the text which mean much the same as the following.**

1. attrezzature elettriche .....
2. fattori di sicurezza .....
3. procedure di isolamento .....
4. pericoli potenziali .....
5. attrezzature di controllo approvate .....
6. avvisi di pericolo .....

**2. Choose two correct verbs for each word.**

1. Comply with, observe, construct **regulations**
2. Meet, do, lay down **specifications**
3. Fold, put in place, take **precautions**
4. Carry out, give, adopt a **procedure**

**3. There are many factors to be considered when testing electrical equipment or installations. Read the ones below and tick only those mentioned in the text.**

1.  Testing has to be conducted by qualified personnel.
2.  All electrical equipment and circuits must be dead or turned off.
3.  A visual inspection should be considered before testing.
4.  Safety equipments, including gloves, safety glasses etc., must be worn at all times.
5.  Electrical equipment or circuits must be tagged showing that they are on or charged.
6.  In some hazardous situations barricades must be placed.
7.  Care should be taken when working on neutral conductors of circuits.

### Writing

**4. Write four actions to be taken before starting to work with electricity. One has been done as an example.**

1. Evaluate the work to be done .....
2. ....
3. ....
4. ....