



## **FICA Preparation – Things to Remember**

Preparation is the key to a successful FICA result. Those Candidates who pass first time have taken the time to prepare for each individual section of the FICA.

There is a Self-Assessment checklist that we would recommend that you complete with your Employer before you apply for your FICA. Preparation is essential. Those Candidates who pass the FICA on their first attempt do so because they have prepared for each individual section of the FICA in advance.

We would also advise you to take the time to attend the FICA Information Evening that is run by your SECTT Training Officer. This will be an invaluable source of information and guidance.

### **Section A – Assessment of Safe Working Practices**

1. One of the first tasks you will be assessed on is your ability to complete a short Risk Assessment on the Installation Booth where you will be working. Ensure that you demonstrate an understanding of those risks that are relevant to the installation. You need to demonstrate an understanding of who is at risk of injury if risks are not managed.
2. Make sure you demonstrate a full understanding of what control measures are needed to eliminate or reduce the risks you identify in the booth. These need to be recorded on the Risk Assessment paperwork.

### **Section B – Composite Installation**

1. Install the circuits in accordance with the requirements of BS 7671. Not following the requirements of BS 7671 will mean that the installation will not be able to be certified and therefore not able to be used.
2. One of the core skills being tested during your FICA is your ability to follow Instructions. The instructions are detailed in the Installation Specification. It is essential that you take the time to read the Candidate Manual and follow the specification detailed in diagrams or tables. During the Installation you will be asked to choose Protective Devices, Circuit Conductors (type & size). You will be asked to select equipment. Read and follow the specification, do not guess or work from what you commonly use on Site.
3. Make sure you take the time to ensure that you sufficiently secure conductors in terminals. A loose connection that can be pulled out with the 'finger and thumb' test

will lead to your Installation not working or being deemed unsafe.

4. Make sure you leave an “adequate” amount of insulation. Leaving too much or too little insulation can both lead to the installation becoming unsafe. When viewing a connection at 90° you should not see any copper.
5. Ensure you know how to navigate and interpret Scottish Building Standards guidance. Being able to choose equipment that complies with Scottish Building Standards is a skill that is assessed during the FICA. Being familiar with the Scottish Building Standard Technical guide (which is available on the SECTT Moodle site) before you arrive at the FICA centre will make it easier on the day. You will be asked to select a Fire Detector, Downlighter and Fan following Scottish Building Standards Guidance. You will be provided a paper copy of the Technical Guide for use during your assessment.
6. Make sure you sufficiently tighten glands or clamps. These are checked and if they are able to be undone without use of a tool they would be deemed to be loose.
7. All conductors must be identified in accordance with Chapter 51 of BS 7671. This means correct colours must be used and groups of cable within the same circuit should be identified by a letter and/or by numbers.
8. Ensure effective segregation of extra low voltage (ELV) and low voltage cables (LV); ELV cables must be in a different compartment of trunking to LV cables.
9. Ensure you adequately prepare for work on the motor circuit. Familiarise yourself with the cable types that will be used within the motor circuit such as SY cables or singles. Make sure you follow the specification and circuit diagram when working on the motor circuit.

## **Section C – Inspection and Testing**

### **1. Before your Assessment:**

Familiarising yourself with this guidance in advance of the Assessment and your notes from the Inspection and Test week at College which will help you manage your time better during the Assessment. Gaining practical experience prior to the assessment is an important component and essential if you are to pass this section.

### **2. Preparing to test:**

- a. Ensure you are familiar with the operation and use of the test equipment provided
- b. Check the test equipment is in date and safe to use
- c. Select the correct function and range

### **3. Testing:**

- a. Carry out the test in accordance with BS 7671 and IET Guidance Note 3. Do not use any shortcuts that you may have been shown on-site. Follow the guidance within the publications provided.
- b. If you need to repeat a test as a result of a missed step that is allowed. Just remember to repeat any other tests that are linked to the test you are repeating.

#### **4. Record the test results**

The candidate manual will have all tests that are required and will give you space to complete in this book to later add to your schedule of test results or you can complete the schedule of test results as you go but **remember to include all tests and results.**

- a. Verify test results obtained against the requirements of BS 7671
- b. The results need to be compared with the maximum values to check if they are within range allowed.
- c. You may know the maximum values but to prove this they need to be documented on the schedule of test results.
- d. Ensure you know how to complete BS 7671 Inspection & Testing documentation correctly and accurately.
- e. There are templates in the On-site guide and Guidance Note 3 showing you how to complete these documents if you are unsure.
- f. You may test correctly but if the documentation is not correct the testing would not be proven as correct

#### **5. General:**

- a. Ensure you know how to verify that the installed circuits and equipment function as intended.
- b. If you need to disconnect any connections during testing, make sure you reinstate these connections correctly and securely. It is important that connections are left secure after testing. Your Assessor does not mark your Composite Installation (section B) until after you complete Inspection & Testing on the booth.

#### **Continuity of CPC:**

Remember to operate all switches and test at all points in wiring. This includes luminaires, switches and fan.

Remember to test at the furthest point of the circuit (i.e. down to the motor including the SY Cable and control circuit)

Polarity can be confirmed if you use test method 1 but only if tests are carried out on every circuit.

#### **Continuity of Ring Final Circuits:**

Know the three step procedure

Identified cables at main board will make it easier to bridge the conductors

Bridge both line and neutral and then line and earth (R1+R2) and remember to verify results.

**Insulation Resistance:**

Remember to disconnect sensitive equipment that may be damaged by the test. You need to be able to identify sensitive equipment within the booth.

Remember to ensure all switches are in the on position and test between all phases.

Know how to test the motor control circuit.

Candidates often mistakenly leave the TP&N Switch, i.e. in the on position which results in the full length of the circuit not being tested. Likewise they leave the TPN switch and the circuit breakers in the wrong position resulting in the test being ineffective across all circuits.

**PFC:**

Make sure you know how to carry out a PEFC test and a PSSC test and how to transfer this information onto the test sheet.

Candidates often do not know how to correctly calculate the PFC from obtained results (3 phase supply). Make sure you know how to do this before your test.

**Polarity:**

Remember to test polarity at the furthest points and at the motor.

You may have already tested Polarity as part of your Continuity Tests depending on the test method used i.e. test method one.

**Section D – Safe Isolation of Supplies**

It is important that you listen to your Assessor during Section D. You will be given directions on what to isolate.

Ensure you demonstrate the correct procedure for Safe Isolation of Supplies

- Test all the combinations (10-point test)
  - Know which position to test on the switch
1. Prove the voltage indicator before and after Safe Isolation
    - If you do not prove the voltage indicator before and after you have used it how do you know that it is working correctly?
    - Use the voltage indicator correctly i.e. fingers behind guards
  2. Locate the key in a secure place
    - If the key is not secure someone else could take it and reenergize the circuit you are working upon.
  3. Remember to fit warning notices
    - Fitting a notice and informing people around you that the circuit will be isolated avoids issues with shutting down IT equipment and people trying to switch equipment back on.

## **Section E – Fault Diagnosis and Rectification**

Ensure you correctly identify the faults. The location of the fault should be specific i.e. between point 1 and point 2. If you were sent to repair a circuit you would just replace the damaged piece of cable not rewire the whole circuit. Therefore, you need to identify the exact location of the fault if possible. The type of fault should be described as if you were talking to another electrician i.e. short circuit (line to neutral).

Ensure you record a correct method for rectifying the faults; what would you do to repair the fault

Tip: look at description of what is happening in the job card.

## **Section F – Underpinning Knowledge Assessment**

Mock question papers are available in the FICA section of the SJIB website ([www.SJIB.org.uk](http://www.SJIB.org.uk)).