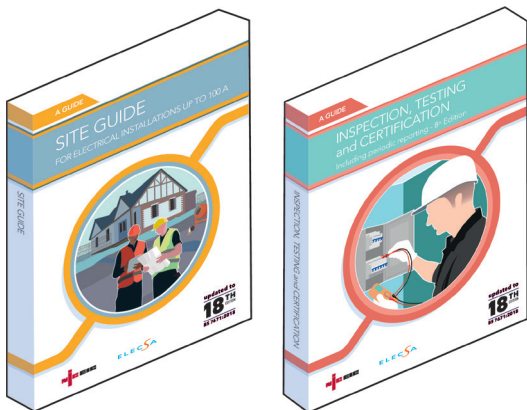


INITIAL VERIFICATION, ORDER OF TESTS

Notes

- (1) This Guide gives information on the order of tests for the initial verification of an installation as required by Regulation 643.1 of BS 7671, which also requires that
 - a. the test results are compared with relevant criteria, and
 - b. any test that indicates a failure to comply with the criteria is repeated after the fault is rectified, together with any preceding test which may have been influenced by the fault.
- (2) Tests must NOT be carried out until inspection has been completed (642.1).
- (3) Precautions shall be taken to avoid danger to persons and to avoid damage to property and installed equipment during testing (641.4).
- (4) Reference should be made to the NICEIC and ELECSA Pocket Guides: 5 *Isolation Procedure* and 12 *Test instrument leads* before carrying out any tests.
- (5) Further information on testing is given in the NICEIC and ELECSA books *Inspection, Testing and Certification* and *Site Guide for Electrical Installations*.
- (6) Table 1 lists the order of tests (where relevant) to be carried out before the supply is connected or with the supply isolated (Main switch OFF) as appropriate.
- (7) Table 2 lists a recommended order of tests (where relevant) to be carried out AFTER the tests in Table 1 have been completed satisfactorily and the supply has been connected (Main Switch ON). [See tables overleaf >>](#)

Guidance on electrical installation and inspection and testing is provided in the range of NICEIC and ELECSA publications, recently updated to BS 7671 2018



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INITIAL VERIFICATION, ORDER OF TESTS

Table 1. Order of tests to be carried out with the supply ISOLATED (AFTER the completion of inspection)

Order	Test	Regulation
1	Continuity of protective conductors including main protective bonding conductors or continuity of ring final circuit conductors	643.2.1
2	Insulation resistance	643.3
3	Protection by SELV, PELV or by electrical separation	643.4
4	Insulation resistance/impedance of floors and walls	643.5
5	Polarity (for example, at lighting switches)	643.6
6	Earth electrode resistance* (where the electrode is part of the installation)	643.7.2

* Alternatively for a TT system the installation earth electrode resistance may be measured with the incoming supply energised and the main switch OFF, using an earth fault loop impedance test instrument.

Table 2. Recommended order of tests to be carried out, where appropriate, with the supply CONNECTED and Main switch ON (AFTER satisfactory completion of the tests in Table 1)

7	Polarity (for example, at socket-outlets)	643.6
8	Protection by automatic disconnection of supply	643.7.1
9	Earth fault loop impedance	643.7.3
10	Prospective fault current	643.7.3.201
11	Additional protection provided by: <ul style="list-style-type: none"> • RCD, or • Supplementary protective equipotential bonding 	643.9
12	Phase sequence maintained for polyphase circuits	643.8
13	Functional testing , including: <ul style="list-style-type: none"> • function of any integral test facility of installed RCDs and/or AFDDs • switchgear and controlgear assemblies, drives, controls and interlocks 	643.10
14	Verification of voltage drop (Note: this is not normally required during initial verification)	643.11