



States of Jersey
Planning and Environment Committee

The Building Bye-Laws (Jersey). Code of Practice

TECHNICAL GUIDANCE DOCUMENT

Part 12 Electrical Safety

Contents

	PAGE
USE OF GUIDANCE	2
LEGAL REQUIREMENTS	2
SECTION 1	4
Performance requirement	4
Definitions	4
Work that need not be notified	4
SECTION 2	5
Design and installation	5
Inspection and testing before taking into service	5
SECTION 3	6
Material alterations	6

Use of Guidance

THE TECHNICAL GUIDANCE DOCUMENTS

This document is one of a series that has been approved by the Committee as practical guidance on meeting the requirements of the second schedule and Bye-Law 7 of the Building Bye-laws.

At the back of this document is a list of those documents currently published which have been approved for the purpose of the Building Bye-Laws (Jersey).

The detailed provisions contained in the Technical Guidance Documents are intended to provide guidance for some of the more common building situations. In other circumstances, alternative ways of demonstrating compliance with the requirements may be appropriate.

Evidence supporting compliance.

There is no obligation to adopt any particular solution contained in a Technical guidance Document if you prefer to meet the requirement in some other way. However, should a contravention of a requirement be alleged then, if you have followed the guidance in the relevant Technical Guidance Documents, that will be evidence tending to show that you have complied with the Bye-Laws. If you have not followed the guidance then that will be evidence tending to show that you have not complied. It will then be for you to demonstrate by other means that you have satisfied the requirement.

Other requirements

The guidance contained in a Technical Guidance Document relates only to the particular requirements of the Bye-laws which that document addresses. The building work will also have to comply with the requirements of any other relevant paragraphs in the second schedule to the bye-laws. There are Technical Guidance Documents which give guidance on each of the other requirements in the second schedule and on Bye-law 7.

LIMITATION ON REQUIREMENTS

In accordance with Bye-Law 8, the requirements in parts 1,2,3,4,5,6,7,9,10 and 12 of the second schedule to the Building Bye-laws do not require anything to be done except for the purpose of securing reasonable standards of health and safety for persons in or about the building.

MATERIALS AND WORKMANSHIP

Any building work which is subject to the requirements imposed by the second schedule to the building bye-laws should, in accordance with bye-law 7 be carried out with proper materials and in a workmanlike manner.

You may show that you have complied with bye-law 7 in a number of ways, for example, by the appropriate use of a product bearing an CE mark in accordance with the Construction Products directive (89/106/EEC), or by following an appropriate technical specification (as defined in that Directive), a British Standard, a British Board of Agrément Certificate, or an alternative national technical specification of any member state of the European Community which, in use, is equivalent. You will find further guidance in the Technical Guidance Document supporting Bye-law 7 on materials and workmanship.

Technical specifications

Building Bye-laws are made for specific purposes; health and safety, energy conservation and the welfare and convenience of disabled people. Standards and technical approvals are relevant guidance to the extent that they relate to these considerations. However, they may also address other aspects of performance such as serviceability or aspects which although they relate to health and safety are not covered by the bye-laws.

When a Technical Guidance Document makes reference to a named standard, the relevant version of the standard is the one listed at the end of the publication. However, if this version of the standard has been revised or updated by the issuing standards body, the new version may be used as a source of guidance provided it continues to address the relevant requirements of the bye-laws.

The appropriate use of a product which complies with a European technical approval as defined in the Construction Products Directive will meet the relevant requirements.

The Requirements

This Technical Guidance document which takes effect on 01 September 2002, deals with the following requirements from part 12 of the second schedule to the Building Bye-laws (Jersey).

FIXED ELECTRICAL INSTALLATIONS

Requirement

A fixed electrical installation in a building must be designed, installed, inspected and tested so as to provide reasonable protection against the installation or any part of it being a source of a fire or a cause of injury to people.

Section 1

Performance Requirement

1. In the view of the Committee, the requirement will be met by adherence to the “Fundamental Requirements for Safety” given in BS 7671 Chapter 13. To achieve these requirements installations need to be:-

1.1. designed and installed to afford appropriate physical and electrical protection; and

1.2 suitably inspected and tested to verify that they meet the relevant equipment and installation standards and they perform functionally as the designers intend.

Definitions

2. In BS 7671 an “electrical installation” is defined as an assembly of associated electrical equipment supplied from a common origin to fulfil a specific purpose having certain co-ordinated characteristics. For the purposes of the Building Bye-laws a fixed electrical installation means those parts of the assembly that are fixed to the building fabric.

3. Competent person means - a person who is registered as a competent electrical installation engineer with a third party certification body accredited by the United Kingdom Accreditation Service to EN45013, as a certification body able to register competent electrical installation engineers, who has provided details of that registration to the Department of Planning and Building Services.

4. Material alteration means – any work done to the fixed electrical installation of a building so that at any stage it could result in it no longer complying with Part 12 of the second schedule to the Building Bye-laws.

5. Extra-low Voltage means voltage normally not exceeding 50 Volts ac or 120 Volts ripple-free dc whether between conductors or to earth.

6. Low Voltage means voltage normally exceeding extra-low voltage but not exceeding 1000 Volts ac or 1500 Volts dc between conductors, or 600 Volts ac or 900 Volts dc between conductors and earth⁶.

Work that need not be notified

The Building Bye-law requirements apply to any provision, extension or material alteration of a fixed electrical installation in a building and normally copies of testing and inspection certificates will need to be supplied to the electricity supply company.

However, it is unnecessary to notify work to the electricity supply company if the proposed work is minor electrical installation work as described in Table 1 and does not include the provision of a new circuit. A Minor Electrical Installation Works Certificate as or similar to the one in BS 7671 should however, be issued to the person ordering the work.

Table 1 Minor Electrical Installation Works that need not be notified.

1. Additional lighting points (light fittings and switching) on an existing circuit.¹
2. Adding socket outlets to an existing ring or radial circuit.¹
3. Replacement of individual accessories including socket outlets, control switches, but excluding the circuit protective device, in a like-for-like manner for a single circuit.
4. Replacement of accessories such as socket-outlets and ceiling roses on a like-for-like basis.
5. Installation and/or upgrading and testing of main equip-potential bonding.
6. Upgrading and testing supplementary bonding.
7. Replacement of the cable for a single circuit only where damaged e.g. by fire, rodent or impact.²
8. Re-fixing and/or repairing the enclosures of existing wiring systems.³
9. Providing additional mechanical protection to existing equipment.⁴

Notes

1 Only if the existing circuit protective device is suitable and provides protection for the modified circuit and other safety provisions are satisfactory.

2 On condition that the replacement cable is identical in manufactured specification, follows the same route and does not serve more than one sub-circuit through a distribution board.

3 On condition the circuit's protective measures are unaffected.

4 On condition the circuit's protective measures are current-carrying capacity of conductors are unaffected.

Section 2

Design and installation

General

1. Installations should be designed and installed so that they are safe when functioning in their intended manner, they prevent dangerously excessive current flow, they prevent metalwork other than electrical conductors from becoming a shock risk and they prevent the persistence of dangerous earth leakage currents.

2. The electricity supply company should be consulted on proposals for new installations or significant alterations to existing ones.

New installation work

4. A way of meeting the requirements when providing electrical services would be to follow the guidance in BS 7671 or in one of the publications which draw their guidance from the BS such as:-

4.1 The IEE On-Site Guide;

4.2 The series of IEE Publications: Guidance Notes Nos. 1 to 7;

4.3 Other publications giving technical advice achieving an equivalent degree of safety.

Inspection and testing before taking into service

5. Installations should be inspected and tested during and/or at the end of installation before they are taken into service to verify that they are acceptably safe; that is to say that they comply with the relevant technical guidance in BS 7671.

6. A way of demonstrating this compliance would be to follow the procedures in Chapter 74 in BS 7671 and to supply to the electricity supply company copies of the forms and certificates it calls for signed by a competent person. Such forms should show that for each electrical installation:-

6.1 Inspection has been carried out (this may be necessary during erection as well as on completion) to verify that the components are:-

6.1.1. made in compliance with appropriate British Standards or Harmonised European Norms;

6.1.2. selected and installed in accordance with the relevant technical guidance in BS 7671 (including with appropriate barriers to touch and water penetration);

6.1.3. not visibly damaged or defective so as to be unsafe.

6.2 Testing has been carried out to check satisfactory performance in relation to continuity of conductors, insulation resistance, separation of circuits, polarity, earth electrode resistance, earth fault loop impedance and functionality of all devices including residual current devices.

7. Section 712 in BS 7671 provides a list of all the inspections that may be necessary although in particular cases only some elements may be relevant. An inspection schedule based on the BS 7671 checklist is given in the IEE Guidance Note 3 as form 3. Tests should be carried out using appropriate instruments under the conditions given in BS 7671. Other similar checklists of results having the same basis in BS 7671 would also be acceptable.

8. Section 713 in BS 7671 provides a list of all the tests that may be necessary although in particular cases only some elements may be relevant. A blank test results schedule is given in the IEE Guidance Note 3 as form 4. Other forms enabling the same information to be recorded would be also be acceptable.

9. A model electrical installation certificate is given in BS 7671 (2001) which enables competent individuals to record information about installation work and to certify that the work they are responsible for is in accordance with BS 7671. Completed certification in this system comprises the electrical installation certificate, the single signatory form and the test results schedule described in paragraph 8 above.

Section 3

Material Alterations

1. Where any work is classified as a material alteration, the alteration and extension work must include such works on the existing fixed electrical installations in the building as are necessary to enable the alterations, the circuits which feed them, the correct protective measures, the mains supply equipment and the relevant earthing systems to meet the requirements. A way of demonstrating compliance would be to follow the guidance given above in relation to design and installation and to show that for the altered circumstances:-

1.1 the rating and the condition of the existing equipment belonging to both the consumer and to the electricity supply company:-

(a) can carry the additional or different loads being allowed for, or

(b) are improved so that they can carry the additional or different loads being allowed for; and

1.2 the correct protective measures are used; and that

1.3 the earthing arrangements and equipotential bonding are satisfactory.

List of technical guidance documents currently issued or approved by the Planning and Environment Committee for the purpose of showing compliance with the Building Bye-laws (Jersey).

- Technical Guidance Document. Part 1 Structure.
- Approved Document B (2000 edition) Fire Safety.
- Technical Guidance Document. Part 3 Heat Producing Appliances and Storage of Fuels.
- Technical Guidance Document. Part 4 Site Preparation and Resistance to Moisture.
- Technical Guidance Document. Part 5 Ventilation.
- Technical Guidance Document. Part 6 Drainage, Hygiene and Water Storage.
- Technical Guidance Document. Part 7 Stairs, Ramps and Protective Barriers.
- Technical Guidance Document. Part 8 Access and Facilities for Disabled Persons.
- Technical Guidance Document. Part 9 Resistance to the Transmission of Sound.
- Technical Guidance Document. Part 10 Glazing – Safety and Protection.
- Technical Guidance Document. Part 11 Conservation of Fuel and Power.
- Technical Guidance Document. Part 12 Electrical Safety.
- Technical Guidance Document supporting Bye-law 7. Materials and Workmanship.

