



Electrical
Safety
First



Inspections

Situation in the UK

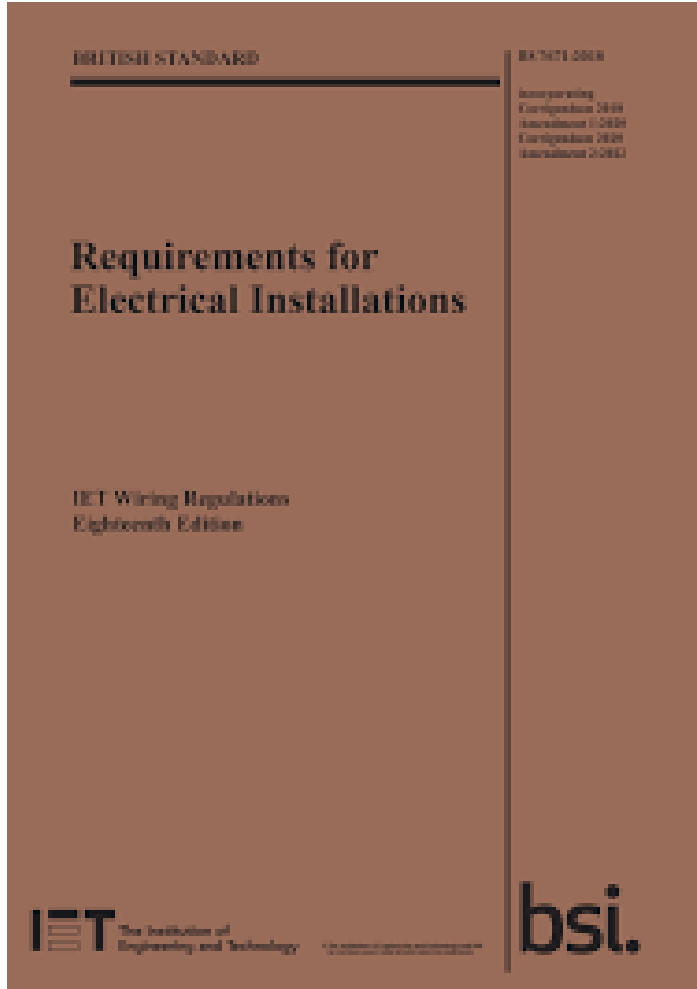
Presented by: Richard Harvey

October 2024



SECTION 2 INSPECTIONS

Inspections



SECTION D. EXTENT AND LIMITATIONS OF INSPECTION AND TESTING

Extent of the electrical installation covered by this report

Agreed limitations including the reasons (see Regulation 653.2)

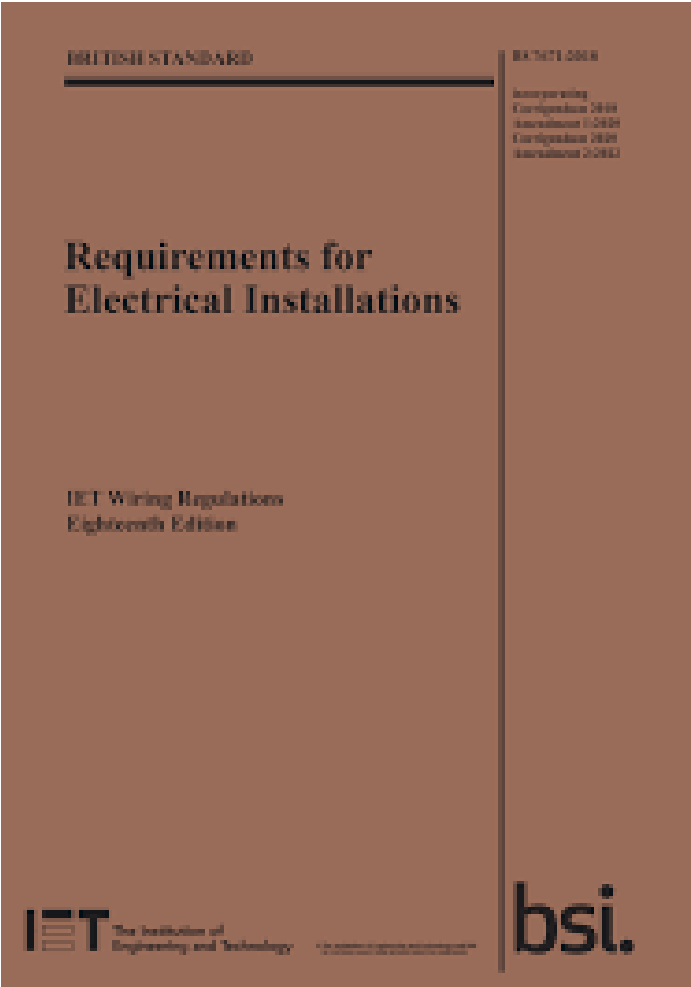
Agreed with:

Operational limitations including the reasons (see page no.....)

The inspection and testing detailed in this report and accompanying schedules have been carried out in accordance with BS 7671:2018 as amended to

It should be noted that cables concealed within trunking and conduits, under floors, in roof spaces, and generally within the fabric of the building or underground, have **not** been inspected unless specifically agreed between the client and inspector prior to the inspection. An inspection should be made within an accessible roof space housing other electrical equipment.

Inspections



7.0	OTHER PART 7 SPECIAL INSTALLATIONS OR LOCATIONS	
7.1	List all other special installations or locations present, if any. (Record separately the results of particular inspections applied.)	
8.0	PROSUMER'S LOW VOLTAGE ELECTRICAL INSTALLATION(S)	
8.1	Where the installation includes additional requirements and recommendations relating to Chapter 82, additional inspection items should be added to the checklist.	

Inspected by:

Name (Capitals)

Signature

Date

Organisational Guidance



The **Electrical Contractors' Association (ECA)** is a leading trade association in the United Kingdom that represents and supports the interests of electrical contractors and installers. Established in 1901, the ECA provides a range of services to its members, including:

- **Technical guidance** and support to ensure compliance with industry standards and regulations.
- **Training and certification** programs to help members stay up-to-date with the latest skills and qualifications.
- **Advocacy** efforts to influence government policy and industry standards.
- **Business support** services, including legal advice, insurance, and health and safety resources.
- **Networking opportunities** through events, forums, and regional meetings.

The ECA aims to promote high standards of workmanship and professionalism within the electrical industry, ensuring that its members deliver safe, reliable, and high-quality services to their clients.

Organisational Guidance



Membership number: This certificate is not valid if the serial number has been defaced or altered **PVVC/** Sheet of

ECA **PV SYSTEM VERIFICATION CERTIFICATE**
This document may be used to accompany an Electrical Installation Certificate or an Electrical Installation Condition Report. The final page of this document provides guidance on its completion and should be consulted before use.

DETAILS OF THE CLIENT

INSTALLATION ADDRESS Initial Verification:
 Project Reference: Date: EIC / EICR number (as required): Periodic Inspection & Testing:

DESCRIPTION OF INSTALLATION Location:
 Key components installed:
 Rated Peak Power (kWp DC): Estimated system performance (kWh):
 Circuits tested (please list):

FOR DESIGN I being the person responsible for the design of the electrical installation (as indicated by the signature below), particulars of which are described above, having exercised reasonable skill and care when carrying out the design, hereby certify that the said work for which I have been responsible is, to the best of my knowledge and belief, in accordance with BS 7671 and BS EN 62446 series.
 Comments:
 Name: Signature: Position:
 Company: Address: Date:
 I recommend that the installation be further inspected and tested after an interval of not more than years.

FOR CONSTRUCTION I being the person responsible for the construction of the electrical installation (as indicated by the signature below), particulars of which are described above, having exercised reasonable skill and care when carrying out the construction, hereby certify that the said work for which I have been responsible is, to the best of my knowledge and belief, in accordance with BS 7671 and BS EN 62446 series.
 Comments:
 Name: Signature: Position:
 Company: Address: Date:

FOR INSPECTION AND TESTING I being the person responsible for the inspection and testing of the electrical installation (as indicated by the signature below), particulars of which are described above, having exercised reasonable skill and care when carrying out the inspection and testing, hereby certify that the said work for which I have been responsible is, to the best of my knowledge and belief, in accordance with BS 7671 and BS EN 62446 series.
 Comments:
 Name: Signature: Position:
 Company: Address: Date:

SCHEDULES (Enter quantities of Schedule of Inspections and PV Array Test Reports attached.)
 This Certificate is valid only when PV System Schedule of Inspections and PV Array Test Reports are attached

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ECA **PV SYSTEM SCHEDULE OF INSPECTIONS**
The inspection report below should be completed to confirm the DC side of a PV system meets the requirements of BS 7671 & BS EN 62446 series. The AC circuit should be inspected and tested in accordance with BS 7671 Part 6 and the appropriate certification issued to the client.

OUTCOMES	Acceptable condition	Unacceptable condition	State C1 or C2	Improvement recommended	State C3	Further investigation FI	Not verified NV	Limitation Lim	Not applicable N/A
For Initial Verification only a ✓ or N/A is an acceptable outcome.									
DC SIDE INSPECTION REQUIREMENTS									Outcome
DC SYSTEM - GENERAL									
(a)	General check to confirm system complies with relevant standards.								
(b)	PV Voltage suitable for location.								
(c)	Components selected and erected to suit location and external influences.								
(d)	Roof and building penetration weatherproof (where applicable).								
DC SYSTEM - PROTECTION AGAINST SHOCK									
(a)	Verification of protective measures against shock.								
(b)	Parts selected and erected so as to minimise the risk of earth faults and short circuits.								
DC SYSTEM - PROTECTION AGAINST INSULATION FAULTS									
(a)	Identification if the inverter has at least simple separation.								
(b)	Identification of any functional earthing.								
(c)	Presence of earth insulation resistance detection and alarm systems.								
(d)	Presence of earth residual current monitoring detection and alarm system.								
DC SYSTEM - PROTECTION AGAINST OVERCURRENT									
(a)	I _{MOD} , MAX, OCV possible reverse current.								
(b)	String cables sized appropriately for prospective faults currents.								
(c)	String / array overcurrent protective devices correctly specified and installed.								
DC SYSTEMS - EARTHING AND BONDING									
(a)	Check of any functional earthing connections.								
(b)	Check functional earth fault interrupters are fitted (where required).								
(c)	Check of any earthing and/or protective equipotential bonding.								
DC SYSTEMS - LIGHTNING AND OVERVOLTAGE									
(a)	Verify wiring loops minimised.								
(b)	Measures in place to protect long cables.								
(c)	SPDs, where fitted, suitably selected, erected and operational.								
DC SYSTEM - EQUIPMENT SELECTION AND ERECTION									
(a)	All DC components rated for DC and for voltage and current maxima.								
(b)	Wiring selected and erected to suit external influences (wind, UV etc.).								
(c)	Plug and socket connectors are of same type and correctly mated.								
AC SYSTEMS									
(a)	Means of isolating inverter provided on AC side.								
(b)	Isolators correctly connected.								
(c)	Inverter parameters correctly specified (including where applicable G98/G99/G100 compliant).								
(d)	RCDs correctly selected, installed and operational (where required).								
LABELLING									
(a)	All parts correctly labelled and suitably durable, with use of instruction and warning notices.								
(b)	Schematics and other signs suitably displayed.								
FURTHER INFORMATION ON THE INSPECTION OF THE DC SIDE OF A PV SYSTEM IS PROVIDED IN BS EN 62446 SERIES									
Comments on existing installation (if applicable): <input type="text"/>									
INSPECTED BY: Name (Capitals): <input type="text"/> Signature: <input type="text"/> Date: <input type="text"/>									

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ECA **GUIDANCE ON PV VERIFICATION**

General

Upon completion of the verification process, a report shall be provided. This report shall include the following information:

- Summary information describing the system (name, address, etc.).
- A list of the circuits that have been inspected and tested.
- A record of the inspection.
- A record of the test results for each circuit tested.
- Interval until next verification.
- Signature of the person(s) undertaking the verification.

Initial verification

Verification of a new installation shall be performed to the requirements of BS 7671 & BS EN 62446 series. The PV system verification certificate shall include additional information regarding the person(s) responsible for the design, construction and verification of the system including the extent of their respective responsibilities.

The initial verification report shall make a recommendation for the interval between periodic inspections. This shall be determined having regard to the type of installation and equipment, its use and operation, the frequency and quality of maintenance and the external influences to which it may be subjected.

The outcome of items listed within the 'PV system schedule of inspections' should only be marked as satisfactory (✓) or not applicable (N/A) as appropriate.

NOTE: The items listed on the schedule is not exhaustive.

Periodic Inspection and Testing

Periodic Inspection and Testing of an existing installation shall be performed to the requirements of BS 7671 & BS EN 62446 series. Where appropriate, the results and recommendations of previous periodic inspections shall be taken into account.

A periodic verification report shall be provided and include a list of any apparent deficiencies and recommendations, where identified, for repairs or improvements.

An Electrical Installation Condition Report should accompany this document when used as part of Periodic Inspection and Testing for an existing electrical installation.

Items marked C1, C2, C3, FI on the 'PV system schedule of inspections' should be detailed within the 'Observations' section on the accompanied Electrical Installation Condition Report and the appropriate observation and classification code detailed.

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Organisational Guidance



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Used as primary sheet or used as continuation sheet of

PV ARRAY TEST REPORT

Project Reference:

SPD Details: Type: Operational status confirmed:

Initial verification

Periodic Inspection & Testing

Details of test instruments used (serial and/or asset numbers): Multifunction: Continuity:

Insulation resistance: Irradiance: Ammeter: Voltmeter:

String Reference	String		String Parameters (as specified)		String overcurrent protective device			String Wiring		String test			String Insulation resistance				String Isolator		Inverter							
	Module output (W)	Module Quantity	Voc (V) (STC)	Isc (A) (STC)	Type	Rating (A)	DC Rating (V)	Capacity (kA)	Type of wiring	Phase CSA (mm ²)	Earth CSA (mm ²)	Voc (V)	Isc (A)	Irradiance (W/m ²)	Polarity Check	Test Voltage (V)	Pos - Earth (M Ω)	Neg - Earth (M Ω)	Earth Continuity (M Ω) (wire/fitting)	Rating (A)	Rating (V)	Location	Functional Check	Make and model	Serial number	Functional check & loss of mains (LOM)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

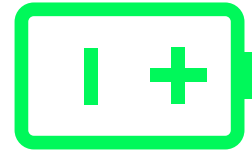
COMMENTS

Tested by name (Capitals): Signature: Date:

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Industry Guidance



PAS 63100:2024

Electrical installations. Protection against fire of battery energy storage systems for use in dwellings. Specification

Electrical battery energy storage systems (BESS) are a key part of domestic renewable energy systems and it's expected there will be a sharp rise in the number of systems being installed in homes.

To help installers manage the fire related hazards associated with BESS, **PAS 63100:2024** covers requirements for fire-safe installations.





**Electrical
Safety**
First

Thank you

Electrical Safety First is the UK charity dedicated to reducing fires, deaths, and injuries caused by electricity. Recognised as the leading technical authority on home electrical safety, we campaign on behalf of consumers and work with policy makers and stakeholders to improve electrical safety regulation and reduce electrical risk.

electricalsafetyfirst.org.uk

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