



EQUIPOTENTIAL BONDING BUSBAR TESTING

**REGULATIONS
NOW CLARIFIED**

The Requirement Has Always Existed - the Guidance Is Now Clear

Previously known as Earth Reference Bars (ERB), Equipotential Bonding Busbars (EBBs) have long been a fundamental safety requirement within NHS medical locations.

BS 7671 Amendment 4:2026, with its strengthened alignment to Health Technical Memoranda (HTM) 06-01 and HTM 06-02, marks a decisive shift: EBB systems must now be formally verified, rigorously inspected and tested, and supported by clear, auditable documentation, which the Dutyholder **MUST** provide, maintain and defend.

While the inspection and testing of EBBs has always been required, Amendment 4 provides **clearer expectations around methodology, record schedules, and evidence of compliance.**

In response, **Guardian Electrical Compliance has introduced a dedicated Equipotential Bonding Busbar inspection and testing service**, designed to support **Dutyholders, Authorising Engineers, and Estates teams** in meeting their statutory, regulatory, and patient safety responsibilities.

What are Equipotential Bonding Busbars and why are they safety-critical?

Equipotential Bonding Busbars are installed within **Group 1 and Group 2 medical locations** to equalise potential differences between exposed and extraneous conductive parts within the **patient environment**, reducing the risk of electric shock under fault conditions.

Medical locations are classified as **Special Locations under BS 7671**, reflecting the heightened risk associated with applied parts, clinical procedures, and patient vulnerability. In these environments, electrical integrity is a life-safety system, not a maintenance consideration.

EBBs form part of the **supplementary protective equipotential bonding system**, supporting:

- Patient protection
- Clinical risk reduction
- Electrical system resilience

Amendment 4 and HTM Alignment - Why EBBs are under renewed scrutiny

Amendment 4 reinforces the intent of **Part 7 - Special Locations**, bringing BS 7671 into closer alignment with **HTM 06-01 (Electrical services supply and distribution)** and **HTM 06-02 (Electrical safety guidance)**.

This alignment places renewed focus on:

- Clear identification of EBB assets
- Defined testing methodologies
- Verified resistance measurements
- Structured record schedules
- Availability of auditable evidence

Guardian has developed its EBB service to reflect this clarified regulatory position and provide **technical assurance**, not assumptions.

The requirement itself is not new - but the **expectation of demonstrable compliance** is.

Regulatory Requirements - Defined and Measurable

BS 7671:2018+A4 2026 Regulation 710.651.2.201 (b)+(c) States:

"(b) resistance of the supplementary protective equipotential bonding is within the limits stipulated by Regulation 710.415.2.102 and recorded in the same format required by Regulation 710.514.9.101 (g);

*(c) the resistance of each individual supplementary bonding conductor **SHALL** be recorded and included in the documentation set out in Regulation 710.514.9.101;"*

Regulation 710.514.9.101 (g) further requires:

"(g) record schedule and test data for the supplementary protective equipotential bonding system, including the connected items, csa of the conductors and end-to-end resistance measurement (based on the example in Annex B710);"

Amendment **4** reinforces that these records **MUST** be **accurate, maintained, and readily available**, consistent with HTM expectations for governance, assurance, and audit readiness.



Guardian

ELECTRICAL COMPLIANCE

SAFE PEOPLE | SAFE PLACES | SAFE SYSTEMS

A PTSG company

CALL 0114 257 2080 FOR MORE INFORMATION



EQUIPOTENTIAL BONDING BUSBAR TESTING

Medical Location Classification Establishing the Correct Control Measures

EBBs are a legal requirement in **Group 1 and Group 2 medical locations**, defined as:

Group 0

Locations where no applied parts are used and supply failure does not present a danger to life.

Group 1

Locations where applied parts are used externally or invasively (excluding Group 2) and supply failure does not represent a threat to patient safety.

Group 2

Locations where applied parts are used and supply failure may cause danger to life, including:

- Intracardiac procedures
- Vital treatments
- Surgical interventions

Correct classification of medical locations is essential to establish the **appropriate inspection, testing, and maintenance regime**.



Guardian's Structured EBB Testing Methodology

To support NHS Dutyholders in meeting clarified requirements, Guardian delivers a structured, two-stage approach to equipotential bonding busbars, designed to establish baseline compliance where records are limited and then provide formal verification aligned with BS 7671 and HTM expectations. The methodology supports NHS Dutyholders with clear visibility, risk-managed assurance, and documented evidence of compliance, while minimising operational and clinical disruption.



Why Guardian Electrical Compliance?

- Proactive response to **BS 7671 Amendment 4 clarification**
- Demonstrable understanding of **HTM 06-01/06-02**
- Medical-location specialists with structured methodologies
- Clear, defensible documentation supporting Dutyholder assurance

EBB inspection and testing may not be new in regulation - but it is now **explicitly defined, formally verified, and auditable**.



Reporting, Records and Ongoing Assurance

Using TraQ-it, Guardian provides structured, auditable documentation suitable for:

- NHS Estates and Facilities teams
- Authorising Engineers (Electrical)
- Internal governance and external audits

Supporting asset visibility, compliance tracking, and future inspection planning in line with HTM best practice.



2 Park Square, Thorncliffe Business Park, Chapeltown, Sheffield. S35 2PH

Tel: 0114 257 2080 Web: www.guardianelectrical.co.uk

Guardian
ELECTRICAL COMPLIANCE
SAFE PEOPLE | SAFE PLACES | SAFE SYSTEMS

A PTSG company