



## EZYBOND EARTH Clamp

### Frequently Asked Questions (FAQ's)

**EZYBOND is a new method of providing quick and simple earth bonding, as an alternative to the metallic earth clamps as characterised by BS951.**

The **EZYBOND EARTH CLAMP** presents a significant advance in performance, security, and time-saving in installation. Although periodic revisions to BS951 have taken place since its inception some 40 years ago, the set parameters have restricted innovation. By embodying advanced technology, the **EZYBOND** clamp has broken the mould and raised the standard to a new level of security. The cautious approach adopted has involved several years of product approval, including ASTA supervised laboratory testing, followed by extensive field trials to confirm the reliability and lasting integrity of connection inherent in the design. Its performance, under far more rigorous conditions than are ever likely to be encountered in normal use, has exceeded present standards in regards to impedance and mechanical security.

#### Q. Is Ezybond compliant with relevant standards?

A. EZYBOND has been independently tested by ASTA and by the manufacturers ASTA accredited test laboratory confirming that it fully complies with all of the electrical tests specified by BS951:1999

#### Q. Does Ezybond comply with IEE Wiring Regulations / BS7671?

A. The wiring regs, BS7671 refer to BS951, which is the only British Standard for earth clamps, and it refers to metallic clamps, so does not accommodate alternative materials such as used in EZYBOND.

However the following clauses from the regulations state:-  
*120-02 New Material and Inventions "120-02-01 Where the use of a new material or invention leads to a departure from the regulations, the degree of safety of the installation is not to be less than that obtained by compliance with the regulations.  
This should be noted in Electrical Installation Certificate"*

#### Eaton confirm an equivalent or greater degree of safety

And additionally, clause 511-01-02 Compliance with Standards "Where equipment to be used is not covered by a British Standard or Harmonised standard, or is used outside the scope of its standard, the designer or other person responsible for specifying the installation shall confirm that the equipment provides the same degree of safety as that afforded by compliance with the regulations "

**Eaton confirm that Ezybond complies with all of the electrical requirements of BS951 and all of the essential safety requirements.**

**Eaton claims compliance with the Wiring Regulations through compliance with these clauses.**

These clauses specifically allow for new products and concepts and promotes innovation.

#### Q. Has Ezybond been through any additional tests?

A. Eaton has fully tested the clamp as follows:

##### Ageing tests

- Repeated thermal cycling tests at 100°C for 8 hours over many cycles has shown no deterioration of joint resistance unlike some traditional metal clamps
- 10,000 repeated current pulse tests at 270A have shown no deterioration in joint resistance, with resistance well below that of some traditional metal clamps

##### Material tests

- Resistance to Heat  
BS1363 Clause 22  
Ball pressure test (75°C for 1 hour, < 2.0 dia)
- Resistance to Abnormal Heat  
BS1363 Clause 23.2  
960°C glow wire
- Resistance to Ageing  
BSEN60669 – 1 – Clause 15.1  
70°C x 168 hr, 20°C x 96hr
- Resistance to Humidity  
BSEN60669 – 1 Clause 15.3  
28°C, 91-95% rh

##### Mechanical Tests

- Conductor retention tests  
100N Pull tests (25 off repeated pulls)

##### Electrical Tests – additional to BS951

- Conditional Short Circuit Tests
  - at 18kA/252V, with 100A BS1361 SCPD – no effect at 9kA cut-off
  - Overload test – 180A for 6 seconds
- Thermal cycling at 100°C

##### Resistance to Environment / Corrosion

- Resistance to Corrosion is maximised due to the use of inert nylon material
- Heat and UV stabilised nylon
- Non Toxic and excellent chemical resistance
- Material is RoHS compliant

In addition, the material and clamp design has long service experience in Automotive under bonnet environments (extremes of heat, cold, oil, vibration) and domestic applications (water, heat, vibration, humidity) in other clamping applications.

## Q. What are the benefits of EZYBOND?

### A.

- Reduced installation time - trials show on average a 60% time saving compared to traditional clamps
- Suitable for both external and internal installations
- Easy cross bonding - Tamper proof / non release
- No sharp edges / sharp tools for installation
- Direct connection between pipe and conductor
- Heat and UV stabilised nylon 66, RoHS compliant
- Non corroding
- No loose parts

## Q. How safe is it to use EZYBOND?

### A. Ezybond clamp offers a very high degree of safety by:

- Affording uniform metal contact i.e. copper pipe to copper conductor as opposed to copper pipe to a steel clamp.
- EZYBOND offers one less joint and guarantees a uniform area of conductor to pipe contact.
- Ensuring that the device cannot be accidentally loosened once locked into position unlike a screwed connection, due to its patented locking feature.
- Eliminating inadvertent personnel injury and other damage caused by possible sharp edges from a metallic clamp and the relevant tools to install them.

EZYBOND's place amongst the market leaders seems assured with the award of Hills Electrical's 'Product of the Year' and being specified for the UK's current largest construction contract.

You are encouraged to play your part in raising the standard by ensuring that specifications for electrical installation include EZYBOND .

