

## Lightning protection component performance

For over 100 years, Furse has been leading the field in the design and manufacture of innovative, high quality lightning protection and earthing components. In keeping with this commitment to quality, all our products are thoroughly and independently tested to ensure they can withstand constant exposure to the environment as required by an LPS and continue to dissipate lightning current safely and harmlessly to earth over the long term.

Recently introduced CENELEC (European) standards have redefined the process by which lightning protection components are judged fit for purpose. Whereas the previous standard focused on the use of specific materials to ensure compliance, now, with the introduction of the BS EN 50164 series of standards, performance and testing are the key criteria.

Furse components have been rigorously tested to ensure compliance with BS EN 50164. Our connection components comply with BS EN 50164-1, our conductors and earth electrodes BS EN 50164-2.

By choosing lightning protection components complying with the BS EN 50164 series, the designer ensures he or she is using the best products on the market and is in compliance with BS EN 62305.

## The BS EN 50164 Series

Currently, three standards within the BS EN 50164 series have been published. These are:

- BS EN 50164-1:2000 Lightning protection components (LPC) Part 1: Requirement for connection components
- BS EN 50164-2:2002 Lightning protection components (LPC) Part 2: Requirements for conductors and earth electrodes
- BS EN 50164-3:2006 Lightning protection components (LPC) Part 3: Requirements for isolating spark gaps (ISG)

Several other parts of BS EN 50164 remain in the process of being compiled by the relevant working group in CENELEC. These are:

- BS EN 50164-4 Lightning protection components (LPC) Part 4: Requirements for conductor fasteners
- BS EN 50164-5 Lightning protection components (LPC) Part 5: Requirements for earth electrode inspection housings and earth electrode seals
- BS EN 50164-6 Lightning protection components (LPC) Part 6: Requirements for lightning strike counters
- BS EN 50164-7 Lightning protection components (LPC) Part 7: Requirements for earth enhancing compounds

Parts 4 to 7 are in draft format and only when they are mature enough for voting by the National Committees will it be decided whether they will be approved and ultimately published.





# All Furse connection components have successfully passed the BS EN 50164-1:2000 test procedures

## Independent testing

In order to gain compliance with BS EN 50164, manufacturers must subject their components to thorough testing and performance measurement.

Furse product tests are undertaken by an independent laboratory. The Research Development and Certification Centre – High Voltage and High Current Testing Laboratory – is a RvA Certified test laboratory.

Tests are carried out on three specimens of the component. The conductors and specimens are prepared and assembled in accordance with the manufacturer's instructions, e.g. to recommended tightening torques. Afterwards, the components undergo environmental preconditioning and are subjected to simulated lightning discharges to assess their capacity to cope with onerous conditions.



## Passing the test

Each part of BS EN 50164 defines its own criteria for satisfactory performance of components. All three components tested must satisfy the conditions set out by BS EN 50164 for the testing to be deemed successful.

A full test report with certification is produced by the independent laboratory for all components satisfying the test criteria.



Environmental ageing chamber for ammonia atmosphere ageing



## Furse component testing

Look out for this symbol within the catalogue for details of the relevant testing standards which Furse conductors, structural lightning protection and earthing components have passed.