

## Testing and Certification

Quelfire products are tested as a system to BS EN 1366-3 (service penetration sealing solutions) or BS EN 1366-4 standards (linear gap sealing solutions). We conduct regular tests to extend our portfolio to new applications based on feedback from our customers and industry trends.

### **Service penetrations**

Service penetration seals are fire tested to the BS EN 1366-3 test standard and can then generally be classified to EN 13501-2.

>See also: [What is a tested solution?](#)

#### **BS EN 1366-3 standard**

The BS EN 1366-3 test standard is used for service penetration types that include:

- Cables and cable carriers such as trays and ladders
- Plastic conduits for cables
- Metal conduits for cables
- Trunking systems for cables
- Busbars
- Single-layered plastic pipes
- Multi-layered plastic pipes
- Uninsulated metal pipes
- Insulated metal pipes

Although it is not within the standard, this standard has been agreed by accredited test laboratories to be the most applicable for plastic vent ducts.

The BS EN 1366-3 fire-resistance test is a cellulosic test, utilising the fire-resistance temperature curve to replicate a fire's flashover and full development stages. The test is used to measure the service penetration seal's ability to withstand fire for both [integrity](#) and [insulation](#) fire resistance.

During the fire-resistance test, a failure is deemed to have occurred if any of the following are observed on the non-fire side:

- Continuous flaming
- Ignition of a cotton pad when applied to any hot spots
- Gap gauge failure – a gap of more than 25mm is formed through the supporting construction
- Temperature on the non-fire side exceeds an average of 140°C or by 180°C at any one point above the ambient temperature

## Linear gaps

Linear gaps seals are fire tested to the BS EN 1366-4 and can then generally be classified to EN 13501-2.

### BS EN 1366-4 standard

The BS EN 1366-4 test standard assesses the capacity of a product to effectively seal a gap between two surfaces in a specific arrangement. This standard operates similarly to BS EN 1366-3, employing a cellulosic test method to evaluate both the fire integrity and insulation properties within a defined gap dimension. If the test results indicate a failure, it is proven in a similar way as specified for BS EN 1366-3.

BS EN 1366-4 can also cover timber door frames as set out in the *National Annex NA: Standard Conditions for Linear Joint Seal Materials [...]*.

## Product certification

Product certification may be presented in several forms as supporting evidence, for example:

- **First-party certification**  
Where an individual or organisation provides goods or services with an offer of assurance that they meet certain claims.
- **Second-party certification**  
An association to which the individual or organisation provides some assurance by virtue of membership.
- **Third-party certification**  
An independent assessment is undertaken by a certification body, themselves accredited by the United Kingdom accreditation service (UKAS in the UK), declaring that specified requirements pertaining to product, person, process, or management system have been met.

Quelfire's products are fire tested at third-party, accredited test laboratories.

## UKCA & CE marking

In addition to fire testing and assessment processes, a manufacturer may wish to progress to a further stage of verification by having their material, product, or system further evaluated under a third-party certification process.

In such situations, the third-party certification body will consider the testing and assessment data supplied but, in addition, will also:

- Evaluate the performance from a range of tests (not a single test) and use these to create a scope of certification which covers the complete product range

- Access evidence from tests used in assessments to create a scope of certification to cover performance range
- Undertake factory production control audits/ inspections of production of the products, typically these will be conducted annually
- Require the manufacturer to declare any changes to products
- Require manufacturer to label products sold to support traceability in case there are any problems
- Undertake ongoing product verification (audit tests/ inspections) at predetermined frequencies

### CE marking

The CE mark shows that a particular construction product can be legally placed on the market of a member state of the European Economic Area. It also indicates that the product is consistent with the data provided in the 'declaration of performance' as issued by the manufacturer. CE marking is only mandatory for some products and can exist side by side with national marks. It indicates the manufacturer has met the legal requirements for their products regarding economy of energy and health and safety under European directives and that they have been satisfied.

Under current guidance, the following generic groups of passive fire protection are required to obtain a CE mark if they are to be placed on the market:

- Smoke control duct sections
- Fire-resisting dampers
- Smoke control dampers
- Fire door hardware
- Gypsum boards

The following list are areas where CE marking is deemed voluntary and falls under the [non-compulsory CE marking \(EOTA route\)](#):

- Reactive coatings for fire protection of steel elements
- Renderings and rendering kits intended for the fire-resisting applications
- Fire protection board, slab and mat products and kits
- Firestopping and fire-sealing products (part two: penetration seals)
- Firestopping and fire-sealing products (part three: linear joint and gap seals)
- Reactive and mechanical air transfer grilles
- Cavity barriers

There are two routes to evaluating products under the *Construction Products Regulation* (CPR): a harmonised European standard (hEN) or a European technical assessment (ETA). An ETA, once granted, has no lifetime limit (if issued after 30/06/2013) and is an alternative for construction products not covered by the harmonised standard. It will be prepared by a technical-approved body (TAB) against a European assessment document (EAD).

In general, there are three main tiers of evidence used to support manufacturers' products in the market:

- Certification from a third-party certification body



- Technical assessment from an accredited test laboratory or suitably qualified fire engineer/consultant
- A fire test report

It is important to note the mark itself is not evidence of compliance – the technical documentation/technical file is.

### **UKCA marking**

The UKCA marking is the product marking used for products being placed on the market in Great Britain (England, Scotland and Wales).

The UKCA marking applies to most products for which the CE marking could be used.

The technical requirements (sometimes referred to as 'essential requirements') you must meet for the UKCA marking will depend on the product-specific legislation for your product.

Conformity with these requirements can also be achieved by using [designated standards](#), which the UK introduced to replace EU harmonised standards. By following designated standards, manufacturers can claim 'presumption of conformity' with the corresponding essential requirements that apply to their product.

The UKCA marking can now be used. However, to provide businesses with flexibility, the government will continue to allow recognition of the CE marking until 31<sup>st</sup> December 2024.

Due to the uncertainty around this marking, Quelfire are currently staying with CE marking until further guidance and confirmation is established.

### **ISO 9001 accreditation**

Our products have always been subjected to the stringent quality controls of BS and EN standards.

Our complete quality management system is audited and meets the criteria of the internationally recognised ISO 90001 accreditation. All our processes are monitored and evaluated to ensure consistent results and to also ensure we are taking advantage of opportunities for improvement.

If you have any further questions, please don't hesitate to contact us at [technical@quelfire.co.uk](mailto:technical@quelfire.co.uk).