

a white paper from Keystep Solutions

Electronic Door Lock certification explained

Executive Summary

It's no secret that the accreditation system surrounding electronic door locks is confusing, CE marking guarantees that such products are designed, tested and approved according to harmonised standards. In truth, however, the legal requirements and compulsory certification processes for the electronic door locking and access control industry is difficult to understand, at best.

Moreover, access to such information is hard to locate. There is no simple, clear, easy to understand knowledge base to which one can refer. The issue is widespread and embedded deep within the industry.

Specifiers, designers, main contractors and even door manufacturers have varying interpretations of the laws and regulations surrounding the access control industry. Often, the stance taken by an organisation is based on opinions rather than facts.



“Given the recent terrible disasters at Grenfell Tower in London and Cameron House Hotel in Scotland, it is imperative that this industry wide knowledge gap is bridged as a matter of urgency. Keystep Solutions have produced this white paper with the aim of addressing this issue”

What is CE marking?

CE Marking is a way of placing a product on the European market and having a barrier free trade and to demonstrate that products comply with relevant regulations on health, safety and environmental protection legislation and the essential characteristics of the harmonised standards.

Products that meet the essential characteristics are marked with the 'CE' logo, showing they conform to one or more of the requirements given in the harmonised (hENs) Annex ZA. These are the essential requirements, performance levels and testing requirements to which products must conform to carry the CE mark.

CE product Certification is carried out by a Notified Body who, in the event of successful testing, Factory Production Control, will verify the product meets the specific technical requirements and essential characteristics, and then issue a CE marking certificate for AVCP level 1 products. It is the manufacturer's responsibility to compile and maintain a technical dossier containing test documentation and produce a Declaration of Performance (DoP).

If a construction product falls under at least one of the directives then having the test data is mandatory, under the relevant harmonised standard(s). Products must conform to those requirements of the harmonised standard to qualify for CE Marking; if not, the product cannot be sold legally in participating countries.

If a manufacturer falsely CE marks a product or fails to CE mark a product for which it is required, the directors of the offending company is liable to prosecution.



CE Marking (European Directive) components for Access Control

The parts which make it up – explained



EN1634-1

Fire Test, performed by an official, independent test laboratory, following prescribed protocols. It must be evidenced that a complete door set fitted with access control can sustain 30 minutes fire resistance whilst maintaining structural stability and integrity.

The door set must be re tested from both sides of the door, resisting failure for at least 30 minutes on each side of the door. This 'double sided' aspect of the test is often overlooked.

Factory Production Control(FPC)

FPC involves the Notified Body the manufacturing process. Every stage of production is examined, through traceability of production batches to management procedures. The visits must be performed annually.

EN14846

Mechanical cycle test for electromechanically operated locks, performed by an official, independent test laboratory. Standard testing protocols are followed, covering nine operational aspects of the lock. Each test involves a minimum of 50,000 operations. To maintain certification, testing must be performed at least annually.

Sampled Specimen

The access control hardware tested in both the mechanical testing and re testing phases must be 'sampled'. This means they must be chosen, at random, from working stock at the manufacturing site. This generally, takes place during the Factory Production Control visit by the Notified Body. It ensures the sample selection is totally impartial, free from any possible influence or manipulation by the manufacturer. It also ensures that the samples are a true representation of those used in the tests and helps confirm the ongoing production process can be maintained day to day.



Common errors and assumptions

A fire test report, successfully achieving 30 minutes' resistance on one side of the door set being tested, is adequate.

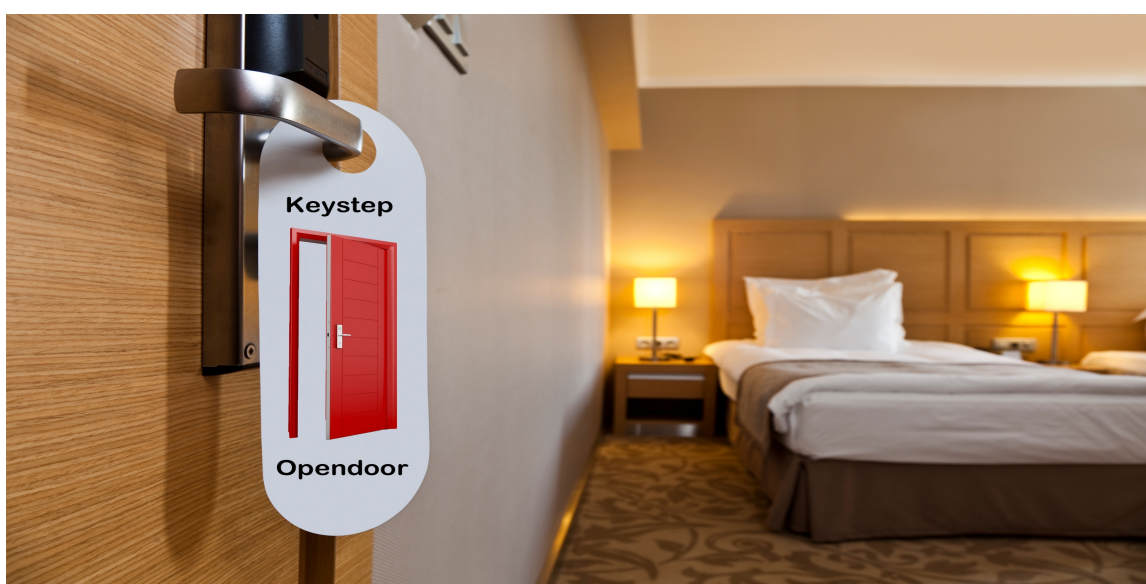
This is not true, but a very common assumption which must be avoided. Evidence of both sides being tested is required Annex A clause (b) of EN14846. This is because the lock hardware fitted to either side of the door will have a different structure and composition (e.g. inner handle different to outer handle). Also, it is likely that any cut-outs made for the hardware will be different on either side, some fully perforating the door and some only partially. This will unequally affect the rate of fire propagation through and around the door. Finally, the structure of the door set itself may vary from one side to the other, e.g. one side of the frame may be fitted with beading. Only by separate testing of both sides can a true outcome be determined.

Fire test reports from both sides of the door set show evidence of a minimum of 30 minutes' resistance being achieved. Is this now sufficient?

No. All hardware tested must have been sampled, i.e. randomly chosen from working stock by a third party, specifically a Notified Body. Evidence of this must be recorded in the test report. It is prohibited for the manufacturer to supply samples directly to the test house. This ensures that the tested materials have not been manipulated or specially prepared in any way. It is imperative, and part of the approval process, that the product being tested is identical to that used in the field.

CE Marking is not a legal requirement.

In some cases, this is true, specifically where no harmonised standard exists for the product in question. However, if there is a harmonised standard for that product type, then it is a legal requirement to hold and display CE Marking. Indeed, CE is the only mark that can be displayed in respect of those standards. Access control in fire resisting door sets has two relevant harmonised standards included in the Construction Products Regulation: EN14846 for electromechanical or EN12209 for mechanically operated locks.





What CE Marking means for us

At Keystep Solutions we have embraced the harmonised standards required to achieve CE Marking. The investment, rigour and discipline required to achieve the mark supports and validates our internal quality processes. We have total confidence that all lock hardware which falls under the standards is tested and approved according to the standards. Our CE Marking relates to two directives: CPR (EU Construction Product Regulation 305/2011) and LVD (Low Voltage Directive 2104/35/EU).

What CE marking means for our customers

Trust is of the utmost importance when dealing with situations that can affect people's lives, especially those that can endanger life. Consequently, it's vital that customers trust our locks to meet, as a bare minimum, the harmonised standards. CE Marking provides the evidence that our locks can withstand adverse environmental conditions, such as fire, and that our production methods are of a consistently high standard.

Conclusion

While CE Marking might seem a simple concept, the devil is very much in the detail. As part of any due diligence process, we recommend that anyone who has a lock system or is thinking of fitting a new lock solution asks their supplier to demonstrate proof of CE Marking (request a DoP), the testing and certification, as a matter of urgency.

The consequences of not doing so are manifold. First and foremost is the moral obligation to provide a safe environment for guests, residents and all users of the building. Liability to prosecution, including a fine and jail term for company directors, is an additional and very real risk to any organisation failing to carry out sufficient due diligence. Finally, the reputational damage to a company caught up in an incident involving breach of European Directives could be catastrophic in these days of 24-hour news and all-pervasive social media.

As we have seen, the route to obtaining relevant CE Marking can be a complicated one. Keystep Solutions have successfully navigated the process for its Opendoor Lock Solution, and we hold the technical competencies and expertise to offer advice and training to manufacturers of doors, designers, contractors and operators in this area. If you feel you may benefit from some training or advice, please contact our Technical Team to register your interest on 01482 830334 or email us at sales@keystep.co.uk

Whilst we cannot promise another Grenfell will never happen, it pays to have a thorough, working knowledge of current regulatory standards. CE Marking provides a robust framework in which to achieve this. We firmly believe that ignorance is never bliss.

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