

## Introduction of EN 16034

European harmonized product standard for pedestrian and industrial doorsets and openable windows with fire resisting and smoke control characteristics



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# EN 16034

EN 16034 defines the requirements for pedestrian, industrial, commercial, garage doorsets and openable windows with fire resisting and/or smoke control characteristics (here after referred to as “product”). The standard is available from national standardization bodies.

## The implementation of the Construction Product Regulation (CPR)

According to the latest European Construction Products Regulation (EU) No. 305/2011 (valid since 1<sup>st</sup> of July 2013) all construction products, which are placed on the market with the intention to become permanent parts of a construction, must enable the construction works to achieve the following basic requirements:

- mechanical resistance and stability
- safety in case of fire
- hygiene, health and environment
- safety and accessibility in use
- protection against noise
- energy economy and heat retention
- sustainable use of natural resources

Specifically, the standard covering fire resisting and/or smoke control products is EN 16034.

### Product Standard EN 16034

EN 16034 is a Harmonized European Product Standard (hEN) and was first cited in the Official Journal of the European Union (OJEU) on 10<sup>th</sup> July 2015. A transition period of 3 years was set.

The new European Harmonized Product Standard EN 16034 shall be implemented on national level by national standardization bodies.

Any conflicting national standards and / or national regulations have to be withdrawn latest when the co-existence period ends.

The national editions of the standard receive the code of the national standardization body as prefix - for example DIN EN 16034 in Germany or UNI EN 16034 in Italy.

Note:

Harmonization in this context means unifying the requirements and test methods, the rules of declaration of product performance and the system of conformity assessment on an European level.

Manufacturers shall mark their product with the CE label (CE = fr. Communauté Européenne ("European Community")) if covered by the product standard.

CE marking conform to EN 16034 declares the relevant characteristics for a fire resisting and/or smoke control doorset and openable window.



### **CE marking and Co-existence period**

CE marking for products covered by EN 16034 is mandatory.

Within the co-existence period manufacturers can use the European System (CE marking) in case the correct procedure was fulfilled or stay with the national system.

As already mentioned, a co-existence period of 3 years has been published in the OJEU.

Products which are covered by EN 16034 have to be CE marked when placed on the market. CE marking enables free trade within all Member States.

This is a major change as affixing of CE marking under the provisions of the Construction Products Directive (CPD) was wrongly considered to be voluntary.

## Final product declaration

The product receives its CE marking only at the end of the design and control process, which consists of:

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- ```
graph TD; A[ ] --- B[product certification, e.g.]; B --- C[initial type testing (ITT)  
extension of the achieved results (EXAP)  
classification report]; C --- D[factory production control (FPC)]; D --- E[traceability of the product]; E --- F[certificate of constancy of performance]; F --- G[CE];
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- product certification, e.g.
    - initial type testing (ITT)
    - extension of the achieved results (EXAP)
    - classification report
  - factory production control (FPC)
  - traceability of the product
  - certificate of constancy of performance



*NANDO (New Approach Notified and Designated Organizations) Information System*  
Notification is an act whereby a Member State informs the Commission and the other Member States that a body, which fulfils the relevant requirements, has been designated to carry out conformity assessment according to a directive. Notification of Notified Bodies and their withdrawal are the responsibility of the notifying Member State.



<http://ec.europa.eu/enterprise/newapproach/nando/index.cfm>

The notified body evaluates during the Initial Type Test (ITT), including test requirements for Fire (EN 1634-1) and Smoke (EN 1634-3), the doorset's conformity to EN 16034, including all its components.

### *EN 16034, chapter 3.1* *Doorset*

*pedestrian doorset, industrial, commercial and/or garage doorset, rolling shutter and/or operable fabric curtains including any frame or guide, door leaf or leaves, rolling or folding curtain, etc., which is provided to give a fire resisting and/or smoke control capability when used for the closing of permanent openings in fire resisting separating elements, including any side panel(s), vision panel(s), flush over panel(s), transom panel(s) and/or glazing together with the building hardware and any seals (whether provided for the purpose of fire resistance or smoke control) which form the assembly and fulfilling the provisions of this European Standard*

## Notified body and NANDO

European Notified Product Certification Bodies are responsible for the verification and control processes as described by EN 16034. These bodies are notified against the standard EN 16034 based on their experience and knowledge of fire resisting and smoke control products.

The NANDO Information system (New Approach Notified and Designated Organizations) publishes Notified Product Certification Bodies, as well as Notified Test Bodies and Notified Surveillance Bodies which are notified against European harmonized product standards.

## Relevant fire and smoke classifications

EN 13501-series specifies the procedure for classification of products according to the following performance characteristics:

**E** Integrity  
**I** Insulation  
**W** Radiation  
**C** Self-closing  
**S** Smoke control

*E<sub>l</sub> 30-C1 S<sub>a</sub>*

This classification report will substitute all current national homologation and certification documents.

## Extended field of application [EXAP]

The EXAP report according to EN 15269-series defines the permitted variations of products (e. g. extension of dimensions, interchangeability of materials, door hardware, constructive details, ...) from the tested specimens. The detailed rules for each appropriate material selection are defined in the relevant part of EN 15269-series.

Currently the following EXAPs are available or in preparation at the print date of the guideline:

| Standard      | Description                                |
|---------------|--------------------------------------------|
| EN 15269-1    | General requirements                       |
| EN 15269-2    | Hinged and pivoted steel doorsets          |
| EN 15269-3    | Hinged and pivoted timber doorsets and ... |
| prEN 15269-4  | Glass doors (project)                      |
| EN 15269-5    | Glass doors with metal frames              |
| prEN 15269-6  | Sliding timber doors                       |
| EN 15269-7    | Sliding steel doors                        |
| prEN 15269-8  | Folding timber doors (project)             |
| prEN 15269-9  | Folding steel doors (project)              |
| EN 15269-10   | Steel rolling shutter                      |
| prEN 15269-11 | Operable fabric curtains                   |
| EN 15269-20   | Smoke control doors                        |

## Factory production control

The Factory Production Control (FPC) is an elementary part of the system to reach CE marking according to EN 16034. It guarantees the reproducibility and conformity of the product to the tested specimen.

The standard requires a specific safety level (Assessment and Verification of Constancy – AVCP) for pedestrian doorsets, industrial, commercial, garage doorsets and openable windows with fire resisting and/or smoke control characteristics.

## Tasks of manufacturer and Notified Body

Level 1 of this Assessment and Verification of Constancy applies to products with fire resisting and/or smoke control characteristics. This safety level requires the splitting of responsibilities between the manufacturer and the notified body in the following manner :

Manufacturer responsible for:

- Factory production control (FPC)
- Further testing of samples taken at factory according to the prescribed test plan (according to FPC)

Notified body responsible for:


- Initial type testing
- Initial inspection of manufacturing plant and of factory production control
- Continuous surveillance, assessment and evaluation of the factory production control

## Traceability and market surveillance

Market surveillance is an essential part of the CPR (and EN 16034, which will be harmonized under the CPR). It protects the end-user/customer from non-conform products.

Based upon the requirement of traceability of the products and controlled by specifically authorized bodies, market surveillance eventually allows the recall or withdrawal of non-conform products from the market.

## CE-marking of the product

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| EN 16034:2014<br><b>Producttype ABC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| fire and/or smoke compartmentation and/or escape routes<br>Resistance to fire (for fire compartmentation uses):<br>E: <b>90</b><br>EI <sub>1</sub> : <b>60</b><br>EI <sub>2</sub> : <b>90</b><br>EW: <b>60</b><br>Smoke control (only for applications where limitation of smoke spread is required): S <sub>200</sub><br>Ability to release: released<br>Self-closing (only for self-closing fire resistant and/or smoke control doorsets and /or openable windows): C<br>Durability of ability to release: release maintained<br>Durability of self-closing (only for self-closing fire resistant and/or smoke control doorsets and /or openable windows):<br>- against degradation (cycling testing): 2<br>- against ageing (corrosion): achieved |

## Declaration of Performance

EN 16034 requires the distribution of a Declaration of Performance (DoP), to which every customer or user shall have access.

The DoP lists all essential characteristics of the product as required by EN 16034. The manufacturer shall at least declare one characteristic with a result. Other characteristics can be declared as NPD, “no performance determined.”

DoPs are to be provided either in paper form or by electronic means in the language/s of the member state with every product delivered.

If the fire doorset is power operated it falls also under the Machine Directive (MD) and an additional declaration of conformity (according to the MD) is necessary.

The declaration of performance for products with fire resisting and/or smoke control characteristics shall contain at least the following details:

- reference of the product-type
- reference to the system “AVCP 1”
- the listing of the relevant harmonized standard “EN 16034”
- the intended use for the construction product
- list of essential characteristics for the declared intended use and its relative performance/s

Beside EN 16034 below standards may also be applicable:

| Product group                                     | Product standard | Test standard | Classification standard | Direct Application (DIRAP) | Extended Application (EXAP) |
|---------------------------------------------------|------------------|---------------|-------------------------|----------------------------|-----------------------------|
| Fire resisting doorsets and openable windows      | EN 16034         | EN 1634-1     | EN 13501-2              | EN 1634-1                  | EN 15296-series             |
| Smoke control doorsets and openable windows       | EN 16034         | EN 1634-3     | EN 13501-2              | EN 1634-3                  | EN 15269-20                 |
| External doorsets                                 | EN 14351-1       |               |                         |                            |                             |
| Internal doorsets                                 | prEN 14351-2     |               |                         |                            |                             |
| Industrial, commercial and garage doors and gates | EN 13241-1       |               |                         |                            |                             |
| Power operated pedestrian doorsets                | EN 16361         |               |                         |                            |                             |



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