



**Compliance Guide  
for motorised gates  
and automatic doors**

**"Safe Doors"**

## Compliance of motorised doors

The compliance of a motorised/automatic door is essential to ensure safety, reliability and conformity with current regulations.

### A compliant door:

- Protects people from risks and hazards (structural and mechanical failure, crushing, entrapment, electrical hazards, etc.).
- Complies with current legislation (as defined by the Machinery Directive, the new Machinery Regulation and all supporting harmonised standards).
- Reduces civil and criminal liability for installers, maintenance technicians and owners in the event of accidents.
- It guarantees reliability and safe operation over time.

### Which rules should be applied?

Compliance with Directives and Regulations, as well as the application of standards, is mandatory for manufacturers, installers and experts in the sector who, right from the design stage, must guarantee safety in use through specific solutions for each type of door.

### These are the main types of motorised doors:

- Sliding gates
- Swing gates
- Sectional doors (rapid, flexible or modular)
- Roller shutters
- Vertical garage doors
- Tilting garage doors (overhanging and non-overhanging)
- Barriers
- Sliding pedestrian doors
- Swing or folding pedestrian doors
- Revolving pedestrian doors
- Public turnstiles (stadiums, sports arenas)
- Automatic entrances (subways, airports)

### Main Directives, Regulations and Standards of reference

- 2006/42/EC - Machinery Directive (It will be replaced by the New Machinery Regulation)
- (EU) Regulation 2024/3110 - Construction Products Regulation
- (EU) Regulation 2023/1230 - Machinery regulation
- DHF TS 013 - Code of Practice for the Safety of Industrial Doors, Domestic Garage Doors, Powered Gates and Traffic Barriers
- EN 12453 - Industrial, commercial and garage doors and gates - Safety in use of motorised doors, Requirements and test methods
- EN 60335-2-95 - Particular requirements for vertical moving garage doors for residential use
- EN 16005 - Motorised pedestrian doors - Safety in use - Requirements and test methods
- EN 17352 - Power operated pedestrian entrance control equipment. Safety in use. Requirements and test methods
- EN 12978 - Industrial, commercial and garage doors and gates - Safety devices, Requirements and test methods
- EN 13854 - Safety of machinery - Minimum gaps to avoid crushing of parts of the human body
- EN 13857 - Safety of machinery - Safety distances to prevent hazardous areas being reached by upper and lower limbs
- EN 13849-1 - Safety of machinery - Safety-related parts of control systems, Part 1: General principles for design
- EN 13856-2 - Safety of machinery - Pressure-sensitive protective devices, Part 2: General principles for design

**N.B.** We recommend reading the specific guide on regulations, which can be downloaded from the download area of the Microtronics website.

## Compliance Procedures

The following paragraphs describe the operations intended for professionals. Each figure may have one or more roles in the compliance procedure, bearing in mind first and foremost that a motorised door is considered a machine in all respects and, therefore, must:

- be designed, constructed and installed in a "safe" manner
- have the regular CE marking
- be supplied with the Technical File



For the following categories of doors, there are different approaches depending on the type of intervention

1. Automatic doors manufactured as standard, already equipped with the drive system (motor).
2. Manual doors motorised later, then automated directly on site.
3. Existing automatic doors (including older models) to be upgraded or adapted to comply with recent regulations.

### 1 - Automatic doors manufactured as standard, already equipped with the drive system (motor)

Normally, the parties involved in this case are the manufacturer and the installer.

These are the operations that the **manufacturer** must perform:

- Design of the product
- Production control procedures (FPC)
- Initial type testing (at a notified body or on site if a micro-enterprise)
  - Report on structural calculations*
  - Wind Load Assessment*
  - Water Penetration*
- Risk Assessment with list of solutions
- Instructions for use, maintenance and installation
- Write the Declaration of Performance (DOP)
- Write the Declaration of Conformity (DOC) (if motorised)
- Apply the CE marking
- Keep the documentation in the Technical File (for at least 10 years)

Whereas the **installer**, who has only been tasked with installing and commissioning the door, must perform the following operations:

- Perform the installation according to the manufacturer's instructions.
- Check that the system is operating safely.
- Provide the customer with the "Test Report" (which certifies that the system has been properly "commissioned").

**N.B.** If the door undergoes changes not provided for in the manufacturer's assembly/installation procedure, it will be necessary to repeat the risk analysis and update the original documentation with the solutions applied and any documentation relating to the electrical/electronic, safety and mechanical components installed.

## 2 - Manual doors motorised later, then automated directly on site.

This is the most complex case because the figures involved may be different and have multiple roles at the same time. Here is a possible list:

- Manufacturer/Producer
- Blacksmith/Manufacturer/Installer
- Installer
- Layer/Construction worker
- External technical consultant

Although the roles are clearly defined, it is possible that only one person is involved, e.g. the blacksmith (manufacturer and installer), but the tasks are normally divided as follows:

### Manufacturer (of the manual door)

- Design of the product
- Production control procedures (FPC)
- Initial type testing (at a notified body or on site if a micro-enterprise)
  - Structural Calculation Report*
  - Wind Load Assessment*
  - Water Penetration*
- Risk assessment with list of solutions
- Instructions for use, maintenance and installation
- Declaration of Performance (DOP)
- Apply the CE marking to the door
- Keep the documentation in the Technical File (for at least 10 years)

### Installer (who motorises the door, creating a new machine)

- Installation in accordance with applicable standards
- Risk assessment with list of solutions
- Instructions for use and maintenance
- Issue to the customer\*** the Declaration of Conformity DOC
- Apply the CE marking to the door (there may be more than one plate)
- Issue to the customer\*** the Test Report (regular "commissioning")
- Issue to the customer\*** the Maintenance Register (if not included in the instructions)
- Keep a copy of the documentation for any components manufactured by third parties
- Keep the documentation in the Technical File (for at least 10 years)

\* The term "customer" refers to the owner of the door.

**N.B.** Additional figures may be involved in the operations described above, such as electricians, external technical consultants, etc. In any case, it is important to remember that anyone who motorises a manual door creates a "machine" and is therefore, responsible for its compliance and CE marking. For this reason, **the role of installer prevails** over all previous ones.

Subsequently, responsibility for the use of the door will pass to the owner, who must follow the instructions for use (provided by the installer) and take charge of maintenance (as defined by the installer).

## 3 - Existing automatic doors (including older models) to be upgraded or to be adapted to recent standards

In this case, it is necessary to follow the rules introduced by the new **Machinery Regulation** and the **related Harmonised Standards**, which establish several important points:

- If a **"Substantial Modification"** is made to the door, it will be necessary to repeat the functional and safety checks to ensure compliance. For this reason, whoever carries out these operations acquires the **"Role of Manufacturer"**.
- There is no obligation to **comply with regulations** (bringing motorised doors into compliance), as it is assumed that the door has been constructed in accordance with regulations and maintained safely over time. However, if this condition is no longer met, it will be necessary to repeat the functional and safety checks to ensure the door complies with current regulations.

### What is a Substantial Modification?

A substantial modification is a significant change that alters the **functionality and characteristics** of the door, affecting (or compromising) safety aspects. Examples of substantial modifications include:

- Repair work involving the replacement of various components (mechanical, electrical, electronic, safety), e.g. repair of a damaged door.
- Introduction of new features that require **different** safety measures or protections **than the current ones**, e.g. the activation command changes from manual to fully automatic, or a remote command is used via a data network that requires special "telematic security".
- Change in the intended use of a door, e.g. an automatic warehouse door that is normally only used by work vehicles; changing the intended use means that it will also be used by people.

Work on an existing motorised door falls into two categories, each requiring different procedures and documentation depending on the circumstances:

- **Repair work without modifications (also known as "on-call" repair work)**
- **Repair work involving modifications (Extraordinary Maintenance)**

### Repair work without modifications

Simple repair work (e.g. cleaning a photocell) or replacement of a single component with an original or equivalent part. This type of work does not affect the safety of the door because no modifications have been made.

After repairing the door, it will be necessary to issue the "Test Report" (which justifies the regular "commissioning").

## Repair work with modifications

Complex repair work involving several repairs and the replacement of multiple components. This is a classic example of a "substantial modification", so it will be necessary to repeat the functional and safety checks to ensure the door's compliance (extraordinary maintenance with substantial modification).

In this case, the installer assumes the "Manufacturer Role" and must therefore follow the procedure indicated on **page 3** "Installer (who motorises the door by creating a new machine)".

**N.B.** In these cases, it is possible to update the Technical File for the door (if existing) only with documentation relating to the changes.

## Operating Procedure

### New installations or extraordinary maintenance involving substantial modifications

1

- **Initial "take charge" phase**
  - Inspection by the installer/maintenance technician
  - Assessment of the work required
  - Presentation of the **Acceptance Report**

2

- **Execution of works**
  - Execution of works (as per Acceptance Report approved by the customer)
  - Execution and drafting of **Risk Analysis** (including list of solutions adopted)
  - **CE marking** of the door
  - Presentation of **Test Report** (customer copy)

3

- **Final phase**
  - Drafting of the **Technical File**
  - Drafting of the **Declaration of Conformity**
  - Drafting and printing of the **Maintenance Register (Certificate of Compliance)**
  - Drafting or delivery of the **Instructions for use for safety and maintenance**

## BlueForce Cloud

### Portal for the documents of the Technical File

The documents represented in the **Operating Procedure** can be created by accessing the BlueForce Cloud web platform, which can be used with any mobile or fixed device.

The management of your private area allows you to compile and archive all the documentation in the Technical File, as well as the crushing/impact measurement data sent by the BlueForce Smart and Pro instruments.

Visit [www.microtronics.it](http://www.microtronics.it) for subscription details.



## Technical File

The Technical File contains the design and compliance documentation for the motorised door in accordance with the Machinery Directive and the new Machinery Regulation. It may also be stored in digital format for a minimum period of 10 years.

**N.B.** The technical file must be available to the competent authorities and, normally, must not be delivered to the end customer, even if a copy may be required by contract between the parties.

## Contents of the Technical File

- Diagram of electrical connections and control circuits for the door
- Overall drawing or photographs of the door
- Risk assessment including the solutions adopted
- Impact/crushing force measurements with corresponding printout report
- (Copy) of the manufacturer's/fabricator's declaration of performance
- CE declaration of conformity
- Declarations of conformity for the individual components installed
- Maintenance Register (Certificate of Compliance)
- Instructions for use and maintenance

## Technical File - Documents Detail

- **Diagram of electrical connections and control circuits for the door.** The electrical diagrams may be contained in the specific user manual for each device used; however, the general diagram of the automatic door and its components can also be represented by a single-line diagram.
- **Overall drawing or photographs of the door/gate.** The graphic representation of the door can be depicted by photographs or a simple graphic drawing. *Please note that with **BlueForce Cloud**, you can use the graphic representations available for each type of door.*
- **Risk analysis including the solutions adopted.** Risk analysis is used to identify the main safety issues related to moving mechanical parts. For example, the risk of crushing between moving doors is potentially dangerous for people passing through the area affected by the door. A proper risk assessment always includes a written list of the solutions adopted, as well as a warning to the user about any "Residual Risks" that are present or have been partially eliminated.  
  
*Please note that Standard EN12453 describes the most suitable measures for securing a motorised door, such as compliance with safety distances, installation of protective barriers or safety devices, inspection of the mechanical structure, and force limitation systems.*
- **Impact force measurements and related print report.** It is necessary to measure the impact and crushing forces between the edges of the door using the appropriate instrument provided for by Standards EN12453, EN60335, EN16005 and EN17352 (see BlueForce Smart Pro by Microtronics).

# Compliance of motorized closures - "Safe Doors"

*The instrument must have certain characteristics (mechanical and structural) and a well-defined accuracy, because the tests must provide concrete, reliable and repeatable results.*

*For each type of automatic door, a certain number of measurements must be taken at specific distances and positions. Thanks to the **BlueForce Cloud** platform, Microtronics measuring instruments allow you to have all the specific points and distances required by the standards at your fingertips.*

- **(Copy) of the declaration of performance by the fabricator or manufacturer.** The manufacturer of the manual door or gate (locksmith or producer) must issue the Declaration of Performance. If renovation work involving substantial modifications has been carried out, or if adjustments have been made that have changed the intended use of the door, a new Declaration of Performance may be required, describing the new technical performance values.
- **Compilation and printing of the CE Declaration of Conformity (including other components).** The CE Declaration of Conformity must indicate the manufacturer's details and a list of all applicable Directives and Standards.

*If one of the components of the door is accompanied by a Declaration of Incorporation relating to partly completed machinery, it must be attached or referenced.*

*Please note that a copy of the relevant Declaration of Conformity must be kept for each component installed.*

- **Maintenance Register (Certificate of Compliance).** Maintenance is essential for keeping automatic doors safe and efficient, both for private and public use. Please note that maintenance on "machines" is mandatory, and the Maintenance Register must be completed, clearly containing at least the following information:
  - Customer data, technical data of the door
  - (If possible) indication of the date of initial installation
  - List of checks/operations performed
  - Space for describing any repair work
  - Date of next maintenance

*The maintenance of machinery, equipment and systems is always mandatory. For this reason, a Maintenance Contract may be necessary to establish a "fair rule" between the parties and to allow greater protection for the user in relation to the maintenance program established by the installer.*

- **Instructions for use and maintenance.** Normally, instructions for use of the various components are provided by the manufacturer and may also include wiring diagrams, CE declarations, mechanical drawings, etc. In any case, the instructions for use must contain the information necessary for the user to use the automatic door correctly, including maintenance procedures, information on residual risks and safety in use.

“ *It is important to emphasise that the application of the Regulations should not be seen as a heavy bureaucratic burden, but rather as an opportunity to enhance the work of automatic door and gate installers, not only with a view to improving the quality of the service provided, but also in view of a new large potential market, namely that of safety, which is also mandatory for all existing motorised doors.* ”

- In the case of “on-call repairs”, always check whether, in addition to the fault reported by the customer, the door requires further repairs or “safety measures”. In such cases, it is useful to use the Acceptance Report, which allows you to create a checklist of additional work to be carried out.
- Install latest-generation motors and/or control units equipped with electronic force control/regulation.
- Installare motori e/o centraline di ultima generazione, dotati di controllo/regolazione elettronico della forza.
- Follow the assembly instructions for the motor and any safety devices recommended by the door manufacturer.
- Ensure compliance of the automatic door by applying “common sense” in risk assessment, then take effective action using components that have recently been introduced on the market (e.g. anti-drop cables, adjustable hinges, infrared safety barriers, etc.).
- Describe the work and installation phases of the door and keep photos or documents from third parties (e.g. locksmith, installer, etc.), create and keep the mandatory documentation required by the Machinery Directive and Machinery Regulation.
- Always send a reminder to the customer/administrator/owner of the door before the maintenance period expires.
- Keep up to date by participating in training courses dedicated to the automatic door sector.

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