ALLEGION

FIRE DOOR
HARDWARE FUNDAMENTALS

SPECIFICATION, INSTALLATION AND
MAINTENANCE GUIDANCE FOR RESPONSIBLE
PERSONS AND TRADE PROFESSIONALS

Briton

CONTENTS

INTRODUCTION:
A NEW FIRE SAFETY LANDSCAPE

Fire safety is critical to the protection of people and property across the built environment.

The fire safety landscape is shifting. Following a period of legislative updates, greater emphasis is being placed on the accountability and coordination of those involved with fire safety management in UK buildings. We aim to support individuals with reliable fire door hardware and trusted advice.

We recognise the importance of fire safety awareness and education and believe everyone should understand basic fire safety procedures and practice - including the role of fire door hardware. Our Briton experts have extensive experience in this field, and by working together with you, we can address the key issues linked to fire door safety to protect your buildings and the people inside them.

Fire Door Hardware Guidance

With this guide, our goal is to highlight some of the concerns and challenges associated with fire door safety - a crucial element of passive fire protection. Throughout, our experts will provide guidance on the latest fire safety regulations, and the roles and responsibilities linked to them, before sharing trusted advice on fire door hardware specification, installation and maintenance.

For over 100 years, our purpose at Briton has been to provide world class door hardware to ensure safe and functional building environments. In our guidance, we intend to deliver answers to the problems you may be facing in your buildings, but should you need further information on our fire door hardware and its specification, installation and maintenance, please contact our experts or simply head to our website **briton.co.uk.**

ⓘ ACTIVE VS **PASSIVE PROTECTION**

Active Fire Protection = Detection, Suppression, Evacuation
This type of protection is about detecting, stopping and escaping fire and smoke.
Typical applications include: Fire alarm systems, fire extinguishers and sprinklers.

Passive Fire Protection = Prevent The Spread
The objective of passive fire protection is to prevent the spread of a fire throughout a building.
Typical applications include: Fire doors and fire-resistance rated walls and floors.

SPEAKING TO THE EXPERTS:
INDUSTRY INSIGHT

In all buildings, reasonable steps must be made to reduce the likelihood and impact of fire. However, our experience tells us that many people remain unsure and indecisive towards fire safety practice and the roles and responsibilities associated with fire doors and their hardware.

To highlight and explore some of the main issues and concerns linked to fire door safety, we set out to speak to industry specialists by holding a qualitative research session. During a roundtable discussion, we gathered valuable insight from a diverse set of experts, each with their own backgrounds, experience and areas of expertise.

Working with architects, OEMs, specifiers, installers and duty holders, our table of experts were well placed to present a wealth of knowledge to the session, exploring:

- The role of fire door hardware and its use in different building types.

- The responsibilities of building managers, Responsible Persons and the supply chain.

- The fire safety reform programme and what the new standards mean for Responsible Persons.

- How accountability and competence is measured and the importance of collaboration and communication.

- The challenges, implications and resolutions associated with fire door hardware specification, installation and maintenance.

Our findings have helped us form the themes and information found throughout this guide.

> **THERE IS A DIFFERENCE IN ATTITUDE AND APPROACH** BETWEEN ACTIVE AND PASSIVE FIRE PROTECTION.

> **IN SITUATIONS WHERE LIVES ARE AT RISK,** GREY AREAS SIMPLY SHOULDN'T EXIST.

> **FIRE DOOR SAFETY IS MULTI-FACETED;** WE ALL HAVE A ROLE TO PLAY.

THE FIRE SAFETY REFORM PROGRAMME

Section 156 of the Building Safety Act 2022 (BSA) has made a number of amendments to the Regulatory Reform (Fire Safety) Order 2005 (FSO) in a bid to improve fire safety in all regulated buildings.

The latest improvements form Phase 3 of the fire safety reform programme, which builds upon Phase 1 (Fire Safety Act 2021) and Phase 2 (Fire Safety (England) Regulations 2022).

As of 1st October 2023, new fire safety legislation was introduced to all non-domestic properties in England and Wales. There are different, although related regulations, in Scotland detailed at the bottom of this page.

The new framework is designed to place greater emphasis on Responsible Persons and compliance in non-domestic buildings, including workplaces, educational, healthcare and leisure premises. It also applies to the shared areas of Houses in Multiple Occupation (HMOs).

In short, Phase 3 further strengthens fire safety in all FSO regulated premises by:

- Improving cooperation and coordination between Responsible Persons (RPs).

- Making it easier for enforcement authorities to take action against non-compliance.

- Increasing requirements in relation to the recording and sharing of fire safety information thus creating a continual record throughout a building's lifespan.

- Ensuring residents have access to comprehensive information about fire safety in their building.

Appropriate and effective management is essential to fire safety and this legislation looks to introduce stringent requirements for all recognised Responsible Persons. The latest updates are comprehensive and aim to eliminate any ambiguity associated with fire safety compliance. More than ever before, the importance of cooperation, accountability and competence is clear.

But what does this mean for you...

> THE NEW FRAMEWORK IS DESIGNED TO PLACE GREATER EMPHASIS ON **RESPONSIBLE PERSONS AND COMPLIANCE.**

⚓ REGULATIONS IN SCOTLAND

In Scotland, Part 3 of the Fire (Scotland) Act 2005 ("the 2005 Act") and the Fire Safety Scotland Regulations 2006 ("the 2006 regulations") provide the legislative framework for fire safety.

💬 DIFFERING TERMINOLOGY

In England and Wales, a person who has been appointed as responsible for fire safety within a building is known as the 'Responsible Person', in Scotland, the 'Duty Holder' and in Northern Ireland the term 'Appropriate Person' is often used.

THE ROLES OF
RESPONSIBLE PERSONS

A Responsible Person (RP) is described as the person or persons responsible for ensuring fire safety within non-domestic premises.

Under the Regulatory Reform (Fire Safety) Order 2005, a Responsible Person must be nominated to manage all matters associated with fire safety. Though it's possible to share the responsibilities with multiple people or a dedicated department, the term is commonly defined by one of the following roles:

> Building Owner

> Letting Agent

> Sub Letting Agent

> Employer

> Manager

> Maintenance Person

> Occupier

To comply with the latest regulations, a nominated RP must possess a robust knowledge of fire safety. The Regulatory Reform (Fire Safety) Order 2005 also outlines the various duties of a Responsible Person, which include:

> Undertaking regular fire risk assessments

> Implementing appropriate fire safety measures

> Creating and maintaining a fire safety plan

> Providing relevant fire safety information

> Regular testing and maintenance on all passive fire door hardware

> Coordination with relevant authorities and other Responsible Persons

> Provision of information to a new Responsible Person when departing the role

ⓘ In shared occupancy and higher risk buildings, it's vital that people know who the Responsible Person is.
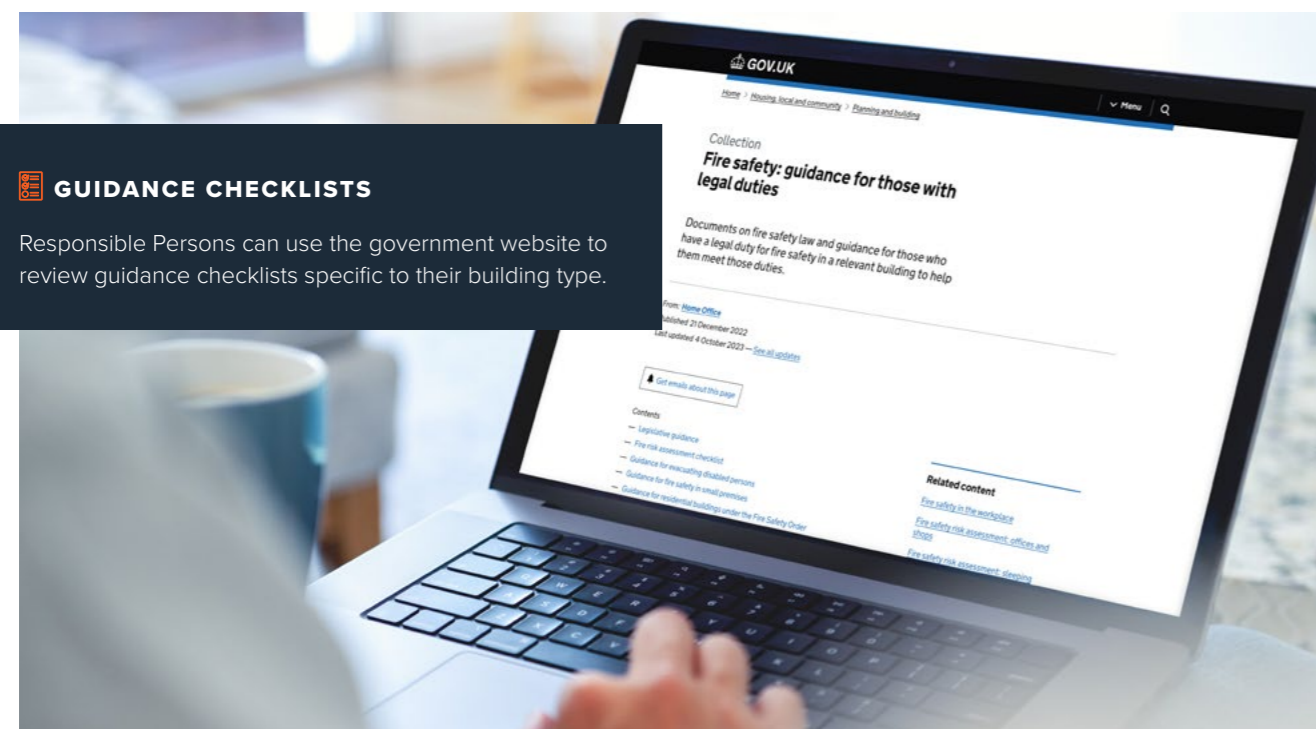
⊞ GUIDANCE CHECKLISTS

Responsible Persons can use the government website to review guidance checklists specific to their building type.

FIRE RISK
ASSESSMENTS

To ensure appropriate precautions and preventative measures are in place, Responsible Persons must conduct and record regular fire risk assessments. This will help identify what you need to do to mitigate the risk of fire and keep people safe.

To conduct a fire risk assessment, you must:

> Identify the fire hazards

> Identify the people at risk

> Evaluate, remove or reduce the risks

> Record your findings, prepare an emergency plan and provide training
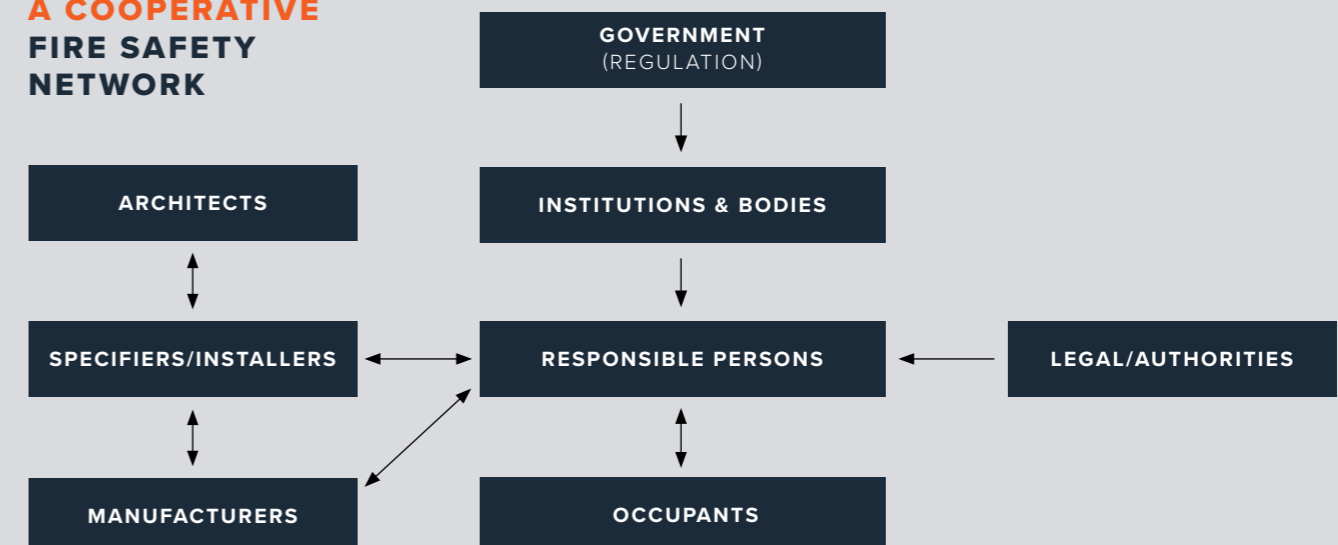
> Review and update the fire risk assessment regularly

ⓘ New fire safety legislation is increasing the level of fines and has removed maximum limits for some penalties.

As of 1st October 2023, under section 156 of the Building Safety Act 2022, Responsible Persons are required to keep written records of all fire risk assessments, irrespective of the building's size and purpose or whether there is a licence in place.

All Responsible Persons must cooperate, coordinate and take reasonable steps to share all relevant fire safety information with others to comply. When it comes to fire safety, there is a chain of responsible parties, and each party's role is equally important as the last.

> **ALL RESIDENTS IN HMOs SHOULD HAVE ACCESS TO THE COMPLIANCE INFORMATION OF FLAT ENTRANCE DOORS.**

A COOPERATIVE FIRE SAFETY NETWORK

GOVERNMENT (REGULATION)

ARCHITECTS	INSTITUTIONS & BODIES

SPECIFIERS/INSTALLERS	RESPONSIBLE PERSONS	LEGAL/AUTHORITIES

MANUFACTURERS	OCCUPANTS

THE ROLE OF MANUFACTURERS

Fire door hardware is designed to support the integrity of fire doors.

"

FIRE DOOR MANUFACTURERS PLAY A KEY ROLE IN THE PERFORMANCE OF FIRE DOOR HARDWARE.

"

Under the Building Safety Act (BSA) regulatory framework, manufacturers can now be held accountable where the use of a construction product causes or contributes to a building being unfit for its inhabitants. Manufacturers have a duty to assess and reduce the risk of construction products to minimise the risk of non-compliance and ensure buildings are safe.

Dependable fire door hardware will be supplied with full product information from the manufacturer - including the Declaration of Performance (DoP), Certifire certification and product datasheets. This information highlights whether a product complies with the necessary standards and can be accessed digitally at any stage in a building's lifecycle via the Golden Thread of Information.

Construction product information is key data that can be used by Responsible Persons and trade professionals when selecting door hardware solutions. Trusted manufacturers will provide transparent, accurate and up-to-date product information, ensuring fire door hardware products conform to the latest building standards and UKCA and CE certifications.

Responsible Persons must check for appropriate test data on fire doors and hardware components, ensuring that third-party certification is current and correct.

TERMINOLOGY GUIDE

Declaration of Performance (DoP)
This is a document that describes a construction product's characteristics and performance under defined conditions, such as fire resistance.

Certifire Certification
An international mark of fire safety for passive fire products that assures performance, quality, reliability and traceability.

The Golden Thread of Information
A single source audit trail, containing accurate and up-to-date information throughout the life of a building.

UKCA Marking
A new UK product marking required for products placed on the market in Great Britain, indicating conformity to GB legislation.

CE Marking
A European mark that ensures products sold in the European Economic Area (EEA) meet high safety, health and environmental protection requirements.

Environmental Product Declaration
EPDs are independently verfified documents that communicate transparent and comparable information about a product's environmental impact throughout its life cycle.

FIRE DOOR HARDWARE AND THE ROLE IT PLAYS

Fire doors are a key element of your building's passive fire protection system. When closed, they compartmentalise and delay the spread of smoke and fire whilst protecting property and providing occupants with an opportunity to escape.

A fire door is much more than the door panel itself. It is a complete assembly comprising:

> The frame

> Intumescent fire and smoke seals (If required by test evidence)

> Door Leaf

> Glazing

> Signage

> Door Hardware - such as hinges, door closers, locks and latches

In the event of a fire, a building's fire doors will not perform as intended unless essential hardware has been correctly specified, installed and maintained. As such, fire doors are tested as a complete assembly or 'door set'.

It is critical for Responsible Persons, specifiers and installers to understand the importance of certification and the effects that inadequate hardware can have on a fire door in an emergency situation.

FIRE & SMOKE RESISTANCE RATINGS

Certified fire doors are available in fire-resistance ratings ranging from FD30 to FD120, and smoke-resistance ratings from FD30S to FD120S.

These ratings detail the length of time the door and its components can withstand smoke and fire - for example, a fire door that provides 30 minutes of resistance will be rated FD30.

IDENTIFY A FIRE DOOR

You can identify a fire door by its certification label, usually found on the top of the door. A certified fire door is validated by the BWF (British Woodworking Federation) and BM Trada known as Q Mark.
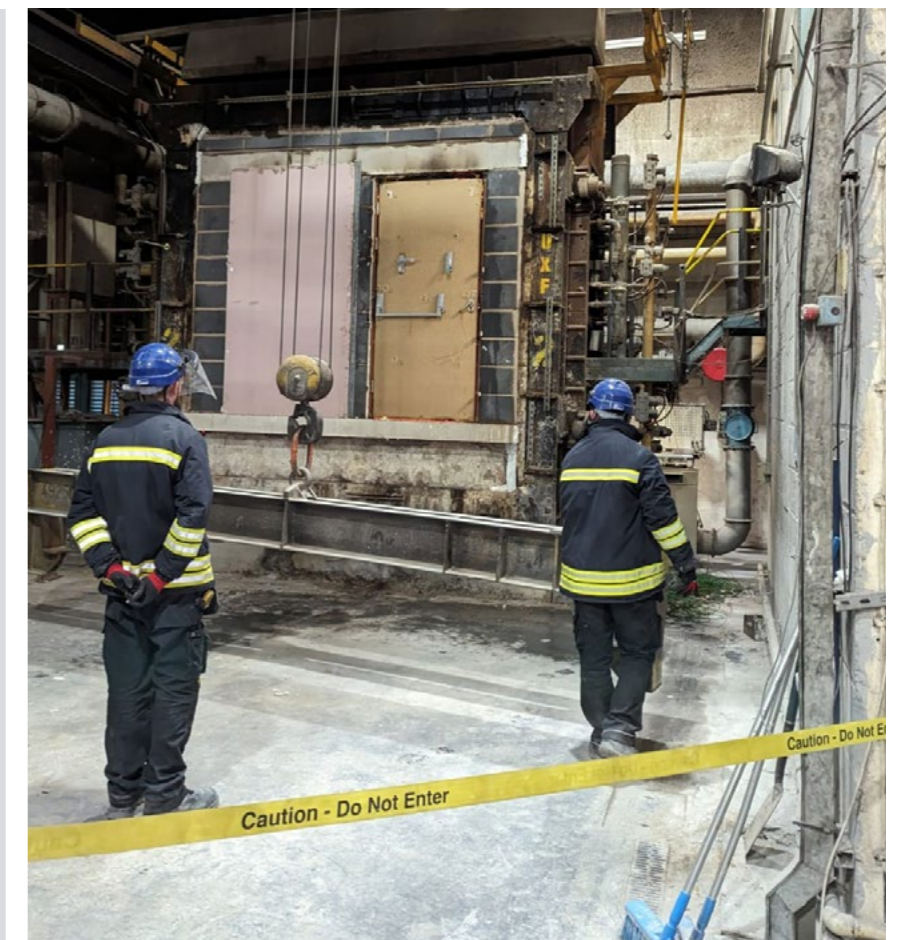
FIRE DOOR SAFETY: HARDWARE SPECIFICATION

When selecting fire door hardware, it is essential to understand your building's users needs by reviewing the door application itself and ensuring your chosen hardware meets the required fire ratings, performance ratings and the latest standards.

Exit or escape doors are usually found on the perimeter of your building and are the last doors you pass through on the escape route to a place of safety.

Fire Doors:

> **Fire Door Keep Shut:** self-closing doors used for the passage of people.

> **Fire Door Keep Locked:** doors used occasionally and mainly kept locked, such as cleaning supply cupboards.

> **Automatic Fire Door Keep Clear:** doors held open or swing-free, but revert to self-closing when the fire alarm sounds.

Escape Doors:

> Panic Exit Doors

> Emergency Exit Doors

Fire Door Signage

Clear and correct fire door signage is one of the most important fire safety features in any building. Fire doors can soon become ineffective if occupants aren't aware of their presence or are unsure how to use them in an emergency. Fire door signage serves several functions, including:

Identification: Fire door signs and door I.D. discs help occupants identify fire doors, making it clear which doors are part a building's evacuation route, and which doors should remain closed or locked to maintain fire integrity.

Instruction: Instructional signs are designed to guide users through the operation of fire doors, providing clear instruction on whether doors should be kept shut or clear and whether they serve as emergency exits.

Safety: Fire door signs contribute to the overall safety of occupants by conveying important information. Photoluminescent signs are used to guide the way or provide information for a short time in low light conditions or if lights go out during fire emergencies.

In the UK, the primary standard governing fire safety signage is BS 5499. The multi-part British Standard covers a range of detail, from the design and use of fire door signs to where signage should be placed. Under UK law, the individual responsible for a building has a legal obligation to ensure that fire safety measures, including fire door signs, are in place, regularly checked and properly maintained.

FIRE DOOR HARDWARE INSTALLATION

Improper fire door hardware installation can be a significant gap in fire safety.

Fire door integrity can quickly become compromised by hardware alignment issues and improper installation. As a result, a fire door may not be able to latch or close fully from its standing position, leaving gaps large enough for flames and smoke to pass through in the event of a fire. Should this be the case in your building, you could be invalidating certification and leaving occupants at risk.

Whilst there is currently no legal framework to assess the competency of installers, it is important for Responsible Persons to appreciate that fire door hardware installation is a specialised task. Responsible Persons are accountable for fire door safety and must plan ahead and seek professional guidance when necessary.

During installation, installers must follow manufacturer guidelines and fittings instructions, which should be supplied with all third-party certified fire doors and hardware. Fire door hardware products are often unique to the manufacturer, with distinctive components, fittings and fixing points, and should never be approached as like for like particularly for retrofit projects.

In many cases, an appropriately specified and perfectly operational door closer device can be found ineffective, solely as a result of poor installation.

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WHO IS COMPETENT TO ASSESS THE INSTALLATION OF A FIRE DOOR PRODUCT? THAT HAS ALWAYS BEEN A CHALLENGE.
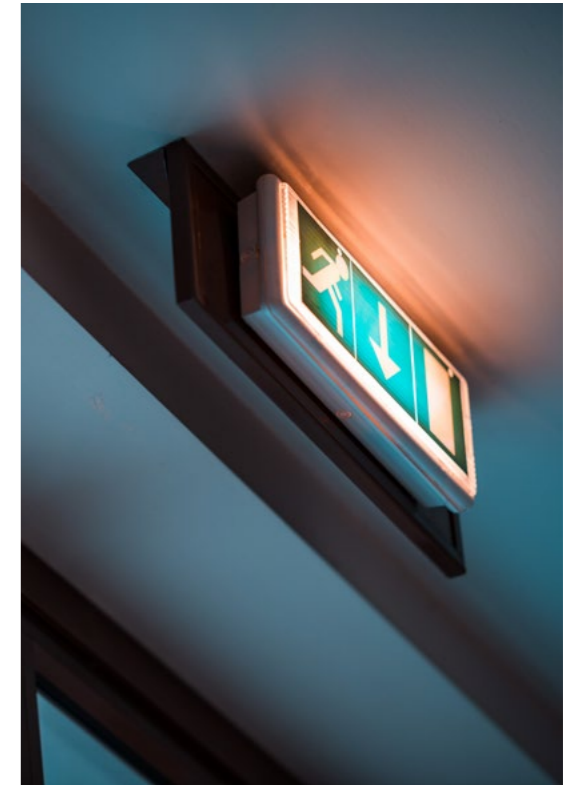**//**

QUICK, EASY AND ACCURATE INSTALLATION...

To support installers with door closer installation, we supply Accufit self-adhesive fitting templates with our most popular products.

Briton customers also have access to instructional installation videos.

SCAN HERE TO WATCH

FIRE DOOR HARDWARE MAINTENANCE

Fire doors and their hardware are often the first line of defence against fire and must be regularly maintained to ensure they continue to operate as intended.

Even durable door hardware can become worn and tired in high-footfall environments and may need repairing or replacing over time. A damaged or ineffective self-closing device for example, can limit the closing action of a fire door and prevent it from fully closing into the frame - rendering it useless in the event of a fire.

Responsible Persons should perform quarterly checks on fire doors - as well as annual checks on flat entrance doors and self-closing devices in HMOs. Where the RP is responsible for gathering information and paperwork, the Accountable Person - an individual or organisation who manages the fire and structural safety risks in high-rise residential buildings - will work alongside the RP. A competent assessor must ensure that everything is in working order, including the certification, gaps, seals, hinges, closing elements, operating and appropriate signage.

Upon inspection, if a fire door isn't operating as intended, it's imperative to seek out professional advice and ensure maintenance or replacement is carried out both quickly and professionally.

"
WHERE A FIRE ALARM WILL TELL YOU WHEN SOMETHING IS WRONG, **FIRE DOORS REQUIRE RESPONSIBLE PERSONS TO BE PROACTIVE** WITH REGULAR CHECKS.
"

ⓘ **Under the Regulatory Reform (Fire Safety) Order 2005, Responsible Persons are required to ensure fire doors and their hardware are 'subject to a suitable system of maintenance and are maintained in an efficient state, in efficient working order and in good repair'.**

🤝 **WORKING HAND IN HAND**

An Accountable Person is an organisation or individual who owns or has a legal obligation to repair any common parts of building, such as corridors, staircases and the building exterior. The Building Safety Act 2022 places duty on both APs and RPs to work alongside one another, cooperating and coordinating on safety arrangements to ensure fire safety standards are maintained across the building.

When it comes to door hardware, consider these common fire maintenance issues:

Hinges:
> Fire doors must be hung on a minimum of 3 fire certified hinges
> Hinges must comply to BS EN 1935 and be CE / UKCA marked with a fire identification stamp clearly visible
> Hinges must be securely held in place with appropriately sized screws
> Rising butt or spring hinges are NOT permitted for use on fire doors
> There should be no sign of metal fragments, or oil leakage, these indicators point to worn hinges that will not perform as required and need to be replaced

Locks and Latches:
> Locks and latches must be fitted with intumescent protection to maintain the integrity of the fire door
> Latch should hold the door firmly in place without rattling
> Latch / deadbolt should engage fully into the strike plate
> Latch bolts or strike plates with metal dust deposits indicate wear and tear and should be replaced

Door Closers:
> **All fire doors, except those to locked cupboards and service ducts should be fitted with a fire door closer**
> Fire door closers must be capable of closing the door from any angle of opening and strong enough to overcome the resistance of any latch or seal
> Door closers should close the door in no longer than 25 seconds
> Door closers must confirm to BS EN 1154 and / or BS EN 1155 and be UKCA / CE marked
> Fire doors can be fitted with Concealed, Overhead or Floor Mounted door closers

> Concealed closers are fitted within the door leaf and frame and use a spring to close the door. It must be fitted with the correct intumescent material
> Overhead door closers are fixed to the face of the door or frame and close the door from any opening angle
> Floor spring closers are mounted into the floor screed to close the door
> Electromagnetic fire door closers hold a fire door in the open position with an electrically powered magnet. Linked to the buildings fire alarm system, when the alarm is activated, the door automatically closes
> Door closers must be free from damage and not leaking oil

Additionally:
> Check the gap! A 3mm gap between a fire door and its frame is considered ideal
> Ensure the door is not damaged or split (including the frame)
> Always remember, a blocked fire door won't close properly and will pose a serious threat in an emergency

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IT IS RECOMMENDED THAT **ALL ESSENTIAL IRONMONGERY SHOULD BE TESTED BY A THIRD PARTY.**
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📑 **DOOR LEAF / LEAF**
The main panel that opens and closes, excluding furniture and hardware.

ARE YOUR
FIRE DOORS
SAFE?

THESE **SIMPLE CHECKS** COULD SAVE LIVES

1 Door Furniture
- Is the door handle loose or missing?
- Are all screws present and tight?
- Does the handle operate smoothly and freely return to horizontal position?
- If on an escape route does the door open in the direction of travel with one hand and without the use of a key?

2 Hinges
- Are there a minimum of 3 hinges with all the screws fitted securely?
- Are the hinges free of metal fragments and oil leakage which could be signs of wear?
- Are the hinges marked with a UKCA / CE stamp or BS EN 1935?

Note! Make a note of any fire door that is only hung on two hinges.

3 Locks and Latches
- Is the door furniture firmly fixed and working correctly?
- Does the latch hold the door firmly in place without rattling?
- Does the latch/deadbolt engage fully into the strike plate?
- Are there any metal dust deposits on the latch bolt or strike plate?

4 Door Closers
- Does the door fully close and shut tight from any opening angle?
- Open the door to 5° or 75mm. Does it close and engage the latch?
- Is the closer correctly fitted to the door and frame?
- Is the closer free from damage and not leaking oil?
- If unlatched, does the closer hold the door in line with the frame and intumescent seal?

5 Hold Open Devices
- Is the electromagnetic hold open device operating correctly and releasing the door when the fire alarm is activated?
- Make sure that door hold open devices is not straining the door against its self closing device.

6 Signage
- Are 'Fire Door Keep Shut' (or Closed) signs fitted to both sides of the door?
- Are 'Automatic Fire Door Keep Clear' signs fitted to all fire doors with hold open devices linked to the fire alarm system?
- Are 'Fire Door Keep Locked' signs fitted to doors without self-closing devices such as cleaner's cupboards, store rooms and service ducts?

7 Exit Devices
- Is the panic or emergency exit device functioning correctly?
- Are all exits free from ties or restrictions of escape?
- Are the fixings of the operating device, bolts and strikes tight?

8 Door Seals
- Are the intumescent and/or smoke seals in good condition, intact and undamaged?
- Are the seals continuous around the frame or door leaf?
- Are the seals well attached inside the groove in the frame or door leaf?

Still in doubt, or in need of replacement hardware?
☎ **Call us on 0330 8080 617**

HOW TO
SELECT THE
RIGHT DOOR
CLOSER

1 Establish whether your door is a fire or non-fire door.

For fire doors, it's required that the door closer is fire tested to EN 1634, and UKCA & CE marked to EN 1154 for mechanical variants and EN 1155 for electromagnetic hold-open variants. It's also key to ensure you are making your selection based on the needs of your application.

If the door is a non-fire door, any closer can be selected. However, it's important to ensure the operation of the door is controlled, as this will prevent future damage to the door and frame. If the door is slamming, make sure the door and frame are installed correctly as door closers will not overcome a poor door installation.

2 Look for the fire rating.

This is a vital step in the process. If you're installing a unit on a fire-rated door the closer must also be fire rated. Look for a door closer that's UKCA & CE marked. This shows the product is fit for purpose and meets all of the legal fire safety requirements.

3 Determine the size of door closer that you need based on the height and weight of the door.

Unusually high and heavy doors, or doors located in windy or draughty environments will require a closer with a higher power size in accordance with EN 1154. If you're unsure about sizing, it's best to choose a unit that can be adjusted during installation. It's also key to remember that fire doors must have a minimum Power Size EN 3 to conform to EN 1154 standard.

4 Review the mounting requirements.

Surface mounted closers are the most durable and common type of door closer. Mounted to the surface of the door or frame, they are simple and easy to install. Concealed door closers on the other hand, provide the functionality of a surface mounted closer, but are fitted within the door leaf and frame, and hidden from view enhancing aesthetics.

5 Review the mounting requirements.

Door closers can be mounted in different ways depending on the applications for which they are being used. The 4 most common ways in which to fit a door closer are:
- Figure 1 Door Mount fixing (where the closer body is mounted on the pull face of the door).
- Figure 61 Transom mount push side (where the closer body is mounted on the transom on the push side of the door).
- Figure 66 Parallel mount push side (where the closer body is mounted on the push side of the door).
- Slide track fixing (where the closer with slide arm and track is door or transom mounted on the pull or push side of the door).

6 Evaluate whether backcheck is needed.

Door closers with adjustable backcheck control the speed of the door slowing it down prior to making contact with a door stop or the fully opening position. Essentially, the function prevents or minimises damage to the door, hardware and adjacent walls caused by the door being flung open or caught by a gust of wind. Always check the Declaration of Performance (DoPs) and certification to make sure the closer has passed UKCA & CE standard EN1154.

7 Decide whether your closer should have delayed action.

A delayed action closer offers a period of delay (which can be set for a maximum of 25 seconds) from when the door is opened to closed. This makes them ideal for environments that require easy passage, such as doors used by children, the elderly or wheelchair users.

Again, always check the DoPs to make sure that they have passed UKCA & CE Standard EN 1154 or EN 1155 for electromagnetic hold-open variants.

8 Compare finish options.

Look for a closer that matches or complements the rest of your hardware. By matching your hardware selections you can add to the visual aesthetics of the room and the building.

For further support on selecting or installing Briton door closers email: ✉ technicalsupportuk@allegion.com

SPECIFICATION GUIDANCE

THE KEY TO SAFE **DOOR CLOSER** SELECTION

Buildings in all different environments need to be safe and accessible for the people using them. When it comes to door closing, controlled door closers are the solution, delivering a host of benefits that make them particularly suitable for fire doors and general application in schools, hospitals, commercial and other public and non-public buildings including HMO housing.

ELECTROMAGNETIC DOOR CLOSERS

For facilities looking to foster an open environment, holding doors open allows restriction-free movement and helps to prevent fire doors getting damaged. An electromechanical closer with 'hold open' function is designed to keep fire doors open in a safe manner and linked to the building's fire alarm system, in the event of a fire, the power is cut, the closer firmly shuts the door into its frame.

Electro-mechanical closers with a 'swing-free' function are the ultimate solution to ensure compliance with Fire Safety regulations and BS 8300 as they allow the door to operate as if no closer was fitted by providing virtually no resistance. However upon activation of the fire alarm, the door will automatically close irrespective of its position.

We recommend this type of door closer for:

> **Hold-Open**
  Busy corridors in hotels, schools and office buildings to ease the flow of traffic.

> **Swing-Free**
  Care homes or any place where ease if access is required, other than corridor doors.

CAM ACTION DOOR CLOSERS

In environments where users may be less able to get out in the event of a fire, such as in a care home, pre-school and healthcare setting, a self-closing device can mean the difference between life and death. In these settings, cam action door closers are particularly good at fulfilling fire door regulations, whilst also providing ease of operation and accessibility for all users who might struggle to open a fire door with a closer on it.

We recommend this type of door closer for:

> Care homes, pre-school and primary school settings, where ease of operation is required.

CONCEALED CAM-ACTION DOOR CLOSERS

Concealed door closers provide all the benefits of a cam action door closer, but with the added benefit of being concealed. Hidden from view, the closers allow easy access for less able users whilst maintaining the closing forces needed for fire safety.

We recommend this type of door closer for:

> Corridor doors as they reduce the temptation for tampering and vandalism.

RACK AND PINION DOOR CLOSERS

Rack and pinion door closers, often called scissor arm closers are one of the most common closers. Where doors are used 100's of times a day, durability and reliability are key. There are many variations of size and strength, however, for large, heavy fire doors, heavy-duty door closers are recommended to make sure that the door can close securely each time it is used. For applications where fire doors are flung open, opt for a door closer with backcheck which provides a cushioning effect to slow the door down to prevent damage to the door or injury to persons standing behind it.

We recommend this type of door closer for:

> Public, residential, and commercial buildings to ease use and ensure the door closes fully for security and environmental reasons.

Door Size Chart - EN 1154

It's important to select the right door closer for your application. For fire door usage refer to Certifire certificates for details.

EN Closer Size	Recommended Door Sizes	
	Maximum Door Width	Maximum Door Weight
1	750mm	20kg
2	850mm	40kg
3	950mm	60kg
4	1100mm	80kg
5	1250mm	100kg
6	1400mm	120kg
7	1600mm	160kg

IMPORTANT: For fire door applications, power size 3 is a minimum requirement.

To ensure door closers are tested and certified look out for the following icons:

UKCA UKCA Marked to EN 1154 & EN 1155.

Certifire Certifire Approved.

2hr TIMBER / 4hr STEEL Fire tested to EN 1164 to achieve a rating on timber and metal doors.

CE CE Marked to EN 1154 & EN 1155.

Capable of meeting BS8300 approved Document M requirements.

EPD Tested to ISO 14025 and EN 15804 environmental product declarations.

Fixing Applications Guide

Most Briton door closers are supplied Tri-pack with the necessary brackets and fixings to enable them to be fitted in any of the applications below.

Figure 1 Door Mount Fixing
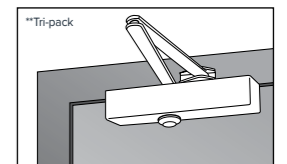Closers are door mounted on the pull or opening face of the door.

Figure 61 Transom Mount Push Side Fixing**
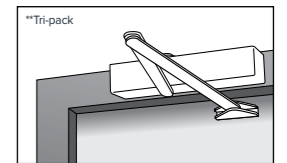Closers are transom mounted on the push or closing face of the door.
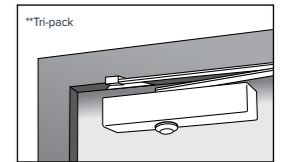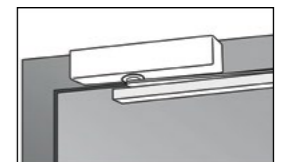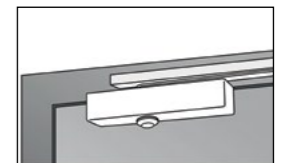
Figure 66 Parallel Arm Mount Fixing
Closers are mounted on the push or closing face of the door.

Slide Track Fixing
Closers with slide arm and track can be door or transom mounted on the pull or push side of the door.

Tracks can be mounted on the face or underside of the transom when mounted on the push side of the door.

EN 1154	EN 1155		EN 1154	EN 1155
4 3/4	**3** 3	**Category of use**	Defines the angle from which the device will close the door in a controlled manner. Grade 3 – 105° Grade 4 – 180°	Only Grade 3 category of use is identified for electrically powered hold-open devices for use by the public and others with little incentive to take care – where there is some chance of misuse of the door
8 8	**8** 5/8	**Test cycles**	Prescribes a series of test cycles. Only one grade is identified. Grade 8 – 500,000 cycles	Prescribes a series of test cycles. Grade 5 – 50,000 cycles for all electrically powered hold-open devices Grade 8 – 500,000 cycles for electrically controlled hold-open or swing-free closers that contain operating arms
3 1-7	**3** 3-7	**Door mass/ size**	Identifies the closer power size as defined by the door width and mass. Adjustable power closers are defined by their upper and lower power sizes. See table on page 13	Hold open power size is suitable for a range of power sizes. Both the max. and min. power sizes are defined. See table on page 13
1 0/1	**1** 1			
1 1	**1** 1	**Suitability for fire/smoke doors**	Having successfully completed a fire test to EN 1634. Grade 1 - suitable for use on fire/smoke door assemblies Grade 0 - not suitable for use on fire/ smoke door assemblies	Having successfully completed a fire test to EN 1634. Only Grade 1 is identified Grade 1 - suitable for use on fire/smoke door assemblies
3 0-4	**3** 0-4	**Safety**	Ensures the operation and suitability of the closer is hazard free - operates without risk to the user. Only Grade 1 is identified	All electrically powered devices are required to satisfy the requirement of safety in use. Only Grade 1 is identified
		Corrosion resistance	Level of corrosion resistance to EN 1670 Neutral Salt Spray test and operation of the product at extreme temperatures. Five grades are identified. Grade 0 - no identified resistance Grade 1 - mild resistance Grade 2 - moderate resistance Grade 3 - high resistance Grade 4 - very high resistance (240 hrs)	

SAFETY &
COMPLIANCE

THE KEY TO SAFE **DOOR CLOSER** SELECTION

All controlled mechanical door closing devices are covered by European Standard EN 1154. The harmonised standard provides details on product types by use, test cycles, door mass, corrosion resistance and product performance requirements using a 6-digit classification code.

EN 1155 specifies the requirements for devices which provide an electrically controlled hold-open or swing-free function on doors used for fire/smoke compartmentation. This includes separate electrically controlled hold-open devices which may be used in conjunction with a standard mechanical door closer.

HOW TO
SELECT THE RIGHT EXIT HARDWARE

Panic or Emergency Hardware?

All doors located on an escape route must have suitable exit hardware installed. Equally, it is a legal requirement for all exit devices to comply with the latest revisions of EN 1125 or EN 179 and to possess UKCA and CE marking.

BUT WHICH STANDARD APPLIES TO WHICH APPLICATION?

Panic Exit Hardware provides safe and effective escape through doorways with minimum effort and without prior knowledge of operation. For use on outward opening doors in public buildings, or buildings with more than 60 occupants, these devices come in the form of horizontal push or touch bars and are required to cover at least 60% of the door width to make them easy to find and operate in an emergency.

Typical applications include:

- Schools
- Hospitals
- Shops
- Theatres
- Cinemas

Emergency Exit Hardware is used in buildings with less than 60 occupants or non-public buildings, where its users are familiar with the building layout, its escape routes and the exit devices placed throughout them. An emergency exit device commonly comprises of a single push pad with a rim latch or a lever handle and allow for single action egress.

Typical applications include:

- Offices
- Private Apartments
- Store & Boiler Rooms

OUR EXPERT ADVICE

PANIC EXIT HARDWARE

IF IN DOUBT, ALWAYS CHOOSE A PRODUCT CERTIFIED TO EN 1125.

WILL THE PUBLIC HAVE ACCESS TO THE AREA?

YES

NO

WILL MORE THAN 60 PEOPLE USE THE AREA?

YES

NO

PANIC BARS TO
BS EN 1125

EMERGENCY ESCAPE DEVICES TO
BS EN 179

For further support on selecting or installing Briton exit hardware email: ✉ **technicalsupportuk@allegion.com**

SPECIFICATION GUIDANCE

THE KEY TO SAFE **EXIT DEVICE** SELECTION

Selecting the right exit hardware for your building can be a challenge. In facilities where exit doors can be used by untrained people or members of the public, panic exit hardware certified to BS EN 1125 is a requirement for all fire exits and fire escape doors. Where users are familiar with a building's layout and means of escape, emergency exit hardware certified to BS EN 179 can be used.

Panic exit hardware is designed to provide safe and effective escape through doorways with minimum effort and without prior knowledge of its operation. The horizontal panic bars must cover at least 60% of the door width, as stipulated by BS EN 1125 and the code of practice of fire escape doors.

We recommend this type of exit device for:

> Escape routes in public or non-public buildings

Emergency exit devices operated by a lever handle, push pad or pull pad are intended for emergency purposes where a panic situation is unlikely to arise. If the area is only accessed or used by trained personnel (staff who take part in fire drills and know the operation of the escape doors) then an emergency escape device is acceptable if occupancy is less than 60 people.

We recommend this type of exit device for:

> Workplaces where people have been trained in their operation.

EXIT HARDWARE ACCESSORIES

Several accessories are available to tailor exit hardware devices for the required application.

DOGGING END BOX

Replacing the standard end box of a panic exit device with the dogging end box allows the door to be used as a push/pull operation which reduces wear and tear and allows traffic to flow much easier, especially in high traffic areas.

PULLMAN LATCHES

Pullman latches differ from traditional latches as they are smoother and quieter in operation and offer increased security. They are well suited to high traffic environments and are often used on commercial doors and busy entrances.

ALARM END BOX

A replacement end box incorporating a microswitch allows standard models to be connected to a separate alarm system. These are ideal for use in shopping centres, schools, or care homes to alert security or staff if escape doors have been opened in non-emergency situations.

Need Access from Outside?

It is also possible to operate exit devices from the outside of the building if required. The device used to achieve this is referred to as an Outside Access Device.

These devices are essentially handles, either lever or knob operated, and are useful if an escape door is also required to offer a means to enter the building. For additional security a digital code lock can be used.
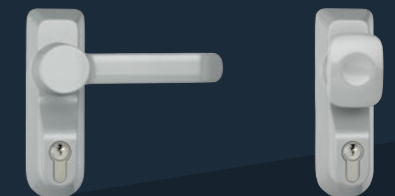
SAFETY & COMPLIANCE

THE KEY TO SAFE **EXIT HARDWARE** SELECTION

EN CLASSIFICATION CODES

Under both standards (EN 1125 and EN 179), each product is classified and graded to identify the level of compliance within various categories of performance and is indicated using a 10-digit code. It is mandatory for manufacturers to mark all panic and emergency exit devices with the UKCA & CE classification to prove compliance with the latest standards.

To be sure fire door hardware meets UKCA & CE mark criteria it should meet all of the requirements listed below:

1. UKCA & CE certificates are readily available for inspection.

2. Products are regularly tested by an accredited test facility as part of an ongoing audit test programme.

3. Products are manufactured on a production line that has been inspected and accredited under FPC (Factory Process Control) conditions, a further requirement of the CE marking process. This ensures that correctly specified materials and manufacturing methods are consistently employed.

4. A Declaration of Performance (DoP) is available, providing information on the performance of the product.

UK CA **CE**

Below is a breakdown of how each of the criteria is measured as part of the classification.

3 (3) — **Category of use**
Class 3 = high frequency of use by public and others with little incentive to exercise care.

Durability (Cycle Testing)
Grade 6 - 100,000 cycles
Grade 7 - 200,000 cycles
7 (6/7)

6 (5-7) — **Door size/mass**
Class 5 - doors up to 100kg
Class 6 - doors up to 200kg.
Class 7 - doors over 200kg.

Fire Resistance (EN 1634)
Grade 0 - not approved for fire/smoke door assemblies
Grade A - approved for smoke door assemblies
Grade B - approved for use on fire & smoke door assemblies
B (0/A/B)

1 (1) — **Safety**
All panic and emergency devices have a critical safety function therefore only Grade 1 is identified.

Corrosion Resistance (EN 1670)
Grade 3 - high resistance
Grade 4 - very high resistance
3 (3/4)

2 (2-5) — **Security**
EN 1125 - Grade 2 - 1000N
EN 179 - Grade 2 - 1000N
- Grade 3 - 2000N
- Grade 4 - 3000N
- Grade 5 - 5000N

Projection of Device
Grade 1 - projection up to 150mm
Grade 2 - projection up to 100mm
2 (1/2)

A (A/B) — **Type of Operation**
EN 1125 Type A - 'Push Bar'
         Type B - 'Touch Bar'
EN 179   Type A - 'Lever Handle'
         Type B - 'Push or Pull Pad'

Field of Door Application
Category A - Single or Double door - active or inactive leaf
Category B - Single door only
Category C - Double door - inactive leaf only
Category D (EN 179 only) - Inward opening single exit door
A

To comply with EN 1125 & EN 179, the door leaf must not exceed 2500mm (h) x 1300mm (w) x 200kg weight.

OVER 100 YEARS OF TRUST AND RELIABILITY

Back in 1907, we set the standard for door controls and exit hardware. Fast-track well over a century and we're still setting the standard for quality, durability and innovation

PROVEN ABILITY

When you buy Briton, you're not simply getting something designed and engineered for trouble-free use. You're getting a product with an exceptional pedigree. Hardware that has proven itself continually within the world's busiest environments.

HARD-WON EXPERTISE

Only experience brings real expertise. That's why you'll find our British designed and engineered door and exit hardware right across the globe. In fact, you'll find them wherever someone wants to protect the people and property they love.

WE ARE PROUD MEMBERS OF:

bwf
BRITISH WOODWORKING FEDERATION

✓dhf
Raising Standards Advancing Safety

MASTER LOCKSMITHS ASSOCIATION
MLA

bwf FIRE DOOR ALLIANCE MEMBER

Guild of Architectural Ironmongers

WE'LL HELP YOU GET IT RIGHT

Sometimes it isn't easy making a choice – especially when it involves safety and security. That's why we do everything we can to help you select, install and maintain our hardware.

RIGOROUS TESTING
All products are thoroughly tested, so you know they're more than fit for purpose.

PRODUCT SELECTORS
Detailed product information makes selecting the right products a breeze.

TEMPLATES & FITTING
Need to check out measurements and fitting, just to make sure? It's all online.

TESTED & CERTIFIED
All certification is easy to download from our website for extra peace of mind.

APPROVED BY CERTIFIRE
All fire and smoke door assemblies are third-party fire tested and approved by Certifire. That means all product testing, assessment and manufacture has been checked and verified.

TECHNICAL SUPPORT
If you need a little extra help, our technical support team is always happy to lend a hand.

WE DON'T MEET STANDARDS – WE EXCEED THEM

If you want to be the best, good is never enough. That's why we make sure all the products we design and engineer are the best they can be.

ATTENTION TO DETAIL
Even after 100 years, we're still pushing for better. That drive ensures our products meet the highest possible quality and conformity certifications – as well as exceeding all applicable European Standards.
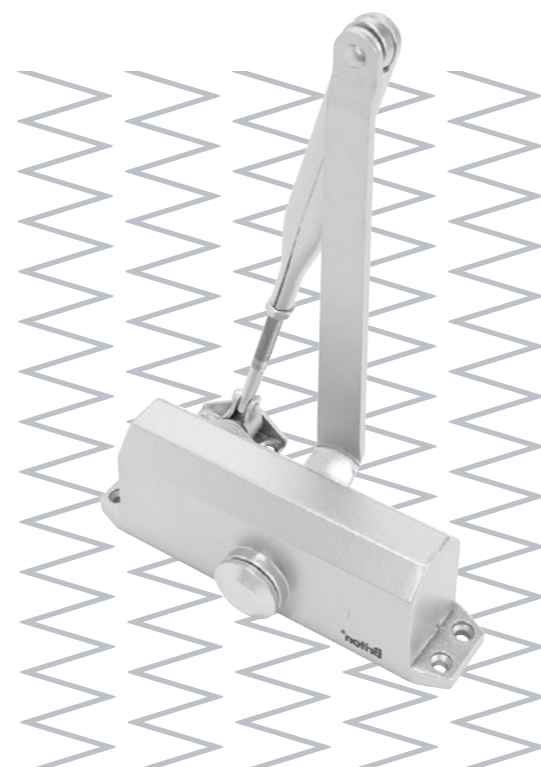
About Allegion

Allegion (NYSE: ALLE) is a global pioneer in seamless access, with leading brands like CISA®, Interflex®, LCN®, Schlage®, SimonsVoss® and Von Duprin®. Focusing on security around the door and adjacent areas, Allegion secures people and assets with a range of solutions for homes, businesses, schools and institutions.

For more, visit **www.allegion.com**

boss door controls ■ Brio ■ **Briton** ■ CISA ■ **LCN** ■ SCHLAGE ■ **VON DUPRIN** ■ ZERO

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