




Buyers' Guide

DOOR CLOSERS

2023

Find out more about balancing building regulations with fire and accessibility legislation. Plus key considerations and recommended products when specifying fire door hardware to ensure compliance.





Door closers are a key part of the door hardware and play an essential role in ensuring the effectiveness of fire doors. However, they are also one of the elements of a building that are exposed to the highest levels of use throughout their lifespan. Therefore, selecting the correct product for each building and even each door is crucial.



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OVERVIEW OF KEY CONSIDERATIONS

When selecting door closers, there are a number of factors that need to be considered to ensure it meets the needs of the building, will function correctly and comply with building regulations. These include:

THE WEIGHT AND WIDTH OF THE DOOR

Not all door closers have the same capacity and the door will not open and close correctly if an unsuitable closer is fitted.

FIRE DOORS

To help prevent the spread of smoke and fire, and to protect escape routes, fire doors must fully and reliably close. Choosing the right door closer will ensure compliance with the Building Regulations.

LEVEL OF TRAFFIC THROUGH THE DOOR

In high traffic areas, such as busy corridors, the door closer will potentially be subjected to thousands of open/close cycles each year. A product that is not suitable for this level of use will require more frequent maintenance and have a shorter lifespan.

THE TYPE OF BUILDING

Different buildings will have specific requirements that must be met. For example, in hospitals, the need to move beds and wheelchairs easily through the building needs to be considered when choosing a door closer. Similarly, the movement patterns in a school environment may also impact the selection of door closers.

THE RISK OF ACCIDENTAL DAMAGE OR VANDALISM

Similarly, in certain environments, there may be a higher risk of either accidental or deliberate damage to the door hardware. The selection of the right door closer can help minimise this, therefore reducing the repair, maintenance and replacement costs.

BUILDING REGULATIONS FIRE AND ACCESS

One of the key considerations when choosing a door closer is compliance with the Building Regulations and balancing the requirements of both fire and accessibility legislation.

FIRE SAFETY

Fire doors are an important part of the overall fire strategy for a building and are essential for safe evacuation in the event of a fire. However, fire doors are only effective when closed fully. Approved Document B (Fire safety) in England and Wales, Section 2 in Scotland and Part E in Northern Ireland, require fire doors to be fitted with a self-closing device that will fully and reliably close the door from any angle. Any such door closing device must comply with BS EN 1154 Controlled Door Closing Devices, or BS EN 1155 for electromagnetic closers and fire door holders, and be CE/UKCA marked to this standard. It is also important to look for third party certified fire doors and doorsets, ensuring they have been rigorously and repeatedly tested by an independent body to give quality assurance that they will perform as intended. Certfire is one example of third party accreditation, which has been applied to a wide range of fire rated ironmongery from various leading brands that includes door closers, locks, hinges and panic hardware.

Furthermore, the Regulatory Reform (Fire Safety) Order 2005 makes ensuring the fire doors operate correctly the duty of the 'responsible person', usually the employer, building owner or building manager.



ACCESS

A building must be designed and constructed in a way that allows everyone access and use of the building. The Equality Act 2010 states that physical features of a building, including fixtures, fittings and equipment, must not restrict access to people with disabilities. Therefore, doors must not have an excessively high opening force that would prevent prevent less able users from opening the door. Approved Document M in England and Wales, Section 4 in Scotland and Part R in Northern Ireland all require that a 'door set' (which includes all door hardware) produces an opening force of below 30 Newtons (N) between 0° and 30° and below 22.5N beyond 30°.

To help calculate this, many manufacturers will provide torque curve data that shows the forces produced throughout the full opening and closing cycle in Newtons. While this does not account for the resistance exerted by other door hardware such as the hinges and door seals, it can help indicate if a given door closer is capable of meeting the guidance of BS 8300 for accessibility.

In essence, fire door closers must have enough power to reliably close the door and keep it closed in the event of a fire - without restricting day to day access throughout the building for any group of users.

There are a range of door closers available that satisfy both fire and equality regulations, and offer adjustability that allows the opening force to be modified on site. For example, the **ARRONE® AR3500 Door Closer** is CERTIFIRE approved and can meet the requirements of BS 8300 guidelines for accessibility. It is adjustable, can be fitted to exterior and interior doors up to 1100mm wide or 80kg and has a 120-minute fire rating.

Alternatively, electro-mechanical door operators can be used to ensure the door can be opened with minimal force. These can either provide fully automatic opening, using a push pad button, or offer assisted operation to minimise the force required.



Arrone AR3500 Fire Door Closer - Silver

Product code: 655420

MEETING BUILDING SPECIFIC REQUIREMENTS

For certain types of buildings, a self-closing door may impact the day to day movement of occupants. Hospitals are a clear example as beds and wheelchairs need to be moved through the building frequently. Also, in schools and colleges, the pattern of use means that at certain times of the day, such as during room changes, there will be a large number of people moving about the building. Here, self-closing doors will impede the smooth movement of staff and students and potentially cause frustration. It will also mean the door closer mechanism will be operated more frequently, increasing wear and tear.

One possible solution is selecting a door closer with delayed action, allowing more time for people to pass through before the door begins to close. To comply with BS EN 1154, all delayed action fire doors must close within 25 seconds from a 120 degree angle.

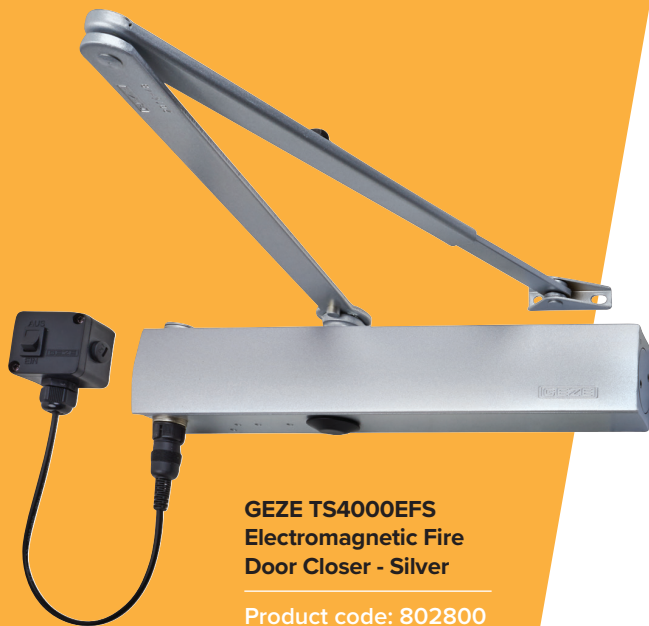
The **Rutland® TS9205 Door Closer**, which can be fitted to interior doors up to 1250mm or 110kg offers the delayed action feature. It is also power adjustable, capable of meeting the requirements of BS 8300 for accessibility and comes with a 25-year guarantee.



Rutland TS9205 Fire Door Closer
- Satin Stainless Steel

Product code: 129581

Another option is to select hold-open devices that will keep the door open until a fire alarm is triggered, at which point it releases the door to close under the force from the door closer. These can either be ones linked directly to the alarm system or operate as a standalone unit. These devices must be CE/UKCA marked BS EN 1155 as per legal compliance.



GEZE TS4000EFS
Electromagnetic Fire
Door Closer - Silver

Product code: 802800

For example, the **GEZE TS4000EFS Electromagnetic Door Closer** will operate to close the door in the event of an alarm being triggered or a loss of power. Featuring a 'free swing' function, it enables the door to be opened and closed with minimal force whilst the electro hydraulic mechanism ensures safe automatic close of the door in the event of a fire. This makes it ideal for health care environments such as care homes and hospitals.

Another alternative solution is to install a standalone product such as the **Dorgard Fire Door Holder**. Highly recommended, this intelligent device will release the door once a continuous fire alarm is detected - with the door closing under the pressure of the overhead door closer. It offers reliable operation, has its own power source and is simple to install. It also has the option for an automatic release at night and fail-safe, by releasing the door if the battery runs low.

Delayed action or hold open devices also have an additional advantage in reducing the temptation for building occupants to prop or wedge the door open to prevent it closing automatically.



Dorgard Fire Door Holder - Black

Product code: 174680

PREVENTING DAMAGE AND VANDALISM

Another consideration when choosing a door closer is the risk of damage to the door, closer and surrounding area – either accidentally or deliberately. This is especially important for fire doors where damage can compromise its performance in the event of a fire.

Doors that feature a backcheck function, such as the **Briton 2003V Door Closer**, will protect the door and the surrounding area from aggressive or out of control door opening. This feature does not provide any additional resistance when the door is opened normally but will slow, or even stop movement as it approaches the fully open position.

To reduce the risk of damage to the door closer mechanism itself, a concealed closer could be considered. With the mechanism hidden when the door is closed, it minimises the temptation and opportunity to damage the device. This is ideal in areas that are accessible to the public but not easily monitored.

The **Rutland ITS.11204** for instance is fully fire tested and approved with a 60 minute fire rating, as well as capable of meeting BS 8300 guidelines.

Jamb mounted concealed closers are fitted into the hinge edge of the door and provide controlled and reliable door closing. For example, the **Perko Powermatic R100** is CERTIFIRE approved for use on fire doors, is accessibility compliant and has been tested through 500,000 closing cycles.

Selecting the correct door closer for each application can help ensure compliance with the regulations, provide easy use of the building for occupants and keep maintenance, repair and replacement costs down.



Briton 2003 Fire Door Closer - Silver

Product code: 202292



Rutland ITS.11204 Concealed Fire Door Closer

Product code: 525989



Powermatic R100 Hydraulic Concealed Fire Door Closer - Satin Chrome

Product code: 344235

ADDITIONAL RESOURCES

To help select the right closer, **IronmongeryDirect** has created a useful online calculator to make specification a simple and quick process. The tool calculates the specifications of the fire door and the expected footfall to identify the recommended closer for the job.

To use the calculator, visit:

<https://www.ironmongerydirect.co.uk/door-closer-guide>

Plus use our Fire Door Checklist:

<https://www.ironmongerydirect.co.uk/fire-door-checklist>



At **IronmongeryDirect** we have a wide range of fire rated hardware in stock.

To find out more visit www.ironmongerydirect.co.uk/firerated

Call: **0300 303 88 21** Email: sales@ironmongerydirect.co.uk



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