

DDA Door Control

Solutions to Approved Document M requirements



ARROW ARCHITECTURAL

The **DDA** Explained

Meeting the requirements for Fire Safety and Access for All

Introduction

ARROW ARCHITECTURAL is a British company based in the Midlands, manufacturing and distributing a wide range of door controls. Engineering excellence has driven the success of the **ARROW** brand, and that same technical competence has been used to develop closers which can meet current legislative and regulatory requirements.

This Technical Guide has been prepared to assist specifiers in selecting door closers which will give access to the disabled, whilst still being suitable for fire doors. The need for positive closing on fire and smoke doors demanded by BS EN 1154 is often at odds with the requirement for access for all, as described in the Disability Discrimination Act. Many door closers currently on the market cannot meet both these demands simultaneously.

This guide gives clear, unambiguous guidance on the selection of **ARROW** closers which can be used with confidence on fire doors in accessible routes.

Door closers for fire doors

What are the requirements for Fire Safety?

Construction Products Regulations:

Door closers which are CE marked to BS EN 1154 (and in the case of electromagnetic devices - BS EN 1155) are deemed to fulfil the requirements for safety in use and safety in case of fire as required by this legislation.

BS EN 1154 states that door closers for use on fire doors must have a minimum **closing** force of 18 Nm (size 3).



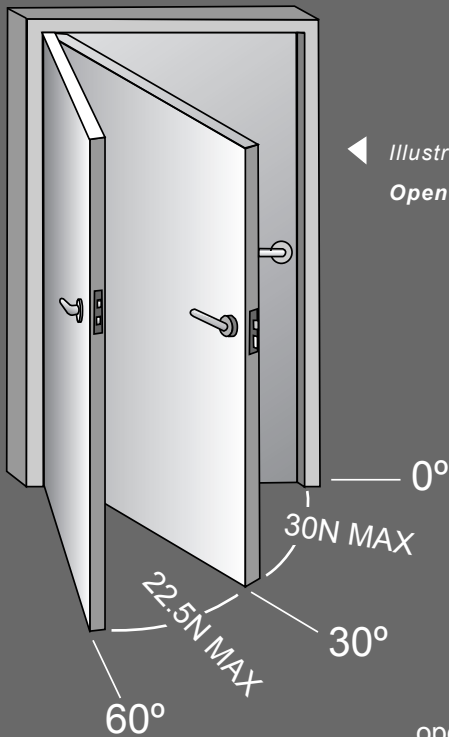
What are the requirements for Access for All?

BS 8300 Design of buildings and their approaches to meet the needs of disabled people – Code of Practice.

Approved Document M – Access to and use of buildings (2004 Edition)

Approved Document M at first required an opening force not to exceed 20 N, but in a later FAQ document published by ODPM, it is accepted that the higher value shown in BS 8300 is appropriate. This is as follows:

“... the opening force, when measured at the leading edge of the door, should be not more than 30 N from 0° (the door in the closed position) to 30° open, and not more than 22.5N from 30° to 60° of the opening cycle”.



◀ Illustration showing
Opening resistances for doors



ARROW Door Closers that meet Access requirements on self-closing fire doors

“Newton metre” is an expression of torque.
The narrower the door-leaf,
the higher the Newtons.

The following table shows door closer models set to power size 3 (minimum 18Nm closing force) for fire and smoke doors, while still offering ease of opening (less than 30 N opening resistance) at 0° - 30°. Minimum door widths are shown.*

Closer model	Minimum door width			820mm	860mm	870mm	950mm
	Size	Setting	Efficiency				
ARROW 325	EN 2-5	EN 3	77%				
ARROW 300	EN 3	EN 3	70%				
ARROW 500	EN 1-6	EN 3	76%				

Meets the requirements of Approved Document M and the Construction Products Regulations at these door widths.

* Note: these results were obtained in UKAS accredited laboratory conditions at Warrington APT and are available for inspection on application to **ARROW ARCHITECTURAL**. When fitted to doors with other ironmongery and door seals, resistance to opening is likely to increase. However, the table can give useful guidance.

Removing the fire door barrier completely

What if the door is in the way?

Some fire doors – especially in corridors or circulation areas – only need to close in the event of a fire emergency. Such doors can be **safely and legally held open** with electro-magnetic devices CE marked to BS EN 1155. For further information, please see our product brochures on 600 series closers and EM wall magnets.

What if the door should be closed, but users cannot safely push against 30 N?

In some circumstances, even 30 N opening resistance is too great for the user to manage. Bedroom doors in care facilities for the very elderly or disabled, some rooms in clinics or hospitals are examples. Such doors can be fitted with “swing free” devices, CE marked to BS EN 1155. These allow the door to be pushed open or closed without any spring pressure. Because they are connected to the fire alarm system, they will only resume their self-closing function in the event of a fire emergency. Please see details on the **ARROW** 600 series for more details.

Minimum door width		700mm	820mm	860mm	870mm	950mm	1100mm
ARROW 600	EM Hold open	EN 4 standard arm					
		EN 3 parallel arm					
ARROW 600	EM Swing free	EN 4 standard arm					
		EN 3 parallel arm					

Meets the requirements of Approved Document M and the Construction Products Regulations at these door widths.



When applying any force to open a door could result in losing balance and falling, choose from:-

- Electro-magnetic hold open – this holds the door permanently open. It is ideal for corridors or circulation routes.
- Swing free – this is also an electro-magnetic device, but this time the door closer function is suspended, and the door moves easily without any spring pressure in both opening and closing cycles. Ideal where privacy is required.

Both functions cease immediately when there is a fire alarm, and the closers resume their self-closing function.

Retro-fit or new build?

Retro-fitting standard door closers to existing buildings with their relatively narrow door widths can cause difficulties with high opening forces. **ARROW** door closers solve these specification problems with their ability to offer low opening resistance whilst still closing the door positively.

New buildings will generally have wider doors in order to meet the requirements of Approved Document M. In these circumstances, **ARROW** door closers will give even lower opening resistance whilst still meeting legislative requirements.

Electro-magnetic hold open or swing free closers remove the need to push against any spring. This means that they can be used on a wide range of door widths whilst delivering free access to all.

Door closers for non-fire & smoke doors


What about closing doors for privacy, security, energy conservation etc?

If a door needs to be self-closing, but is NOT a fire or smoke door, the closing force of the selected door closer can be lower than size 3 (18 Nm). It is advisable to choose a product with adjustable spring strength, so that the ideal closing force can be commissioned after installation.

In some cases, a very light closing force which brings the door near to the frame will be sufficient. In other cases, the door will be required to latch closed or seat itself against seals. Variable spring strength allows customising of the closing force to achieve the desired result for the particular door situation.

The following **ARROW 325 and 500 Series** door closers with adjustable spring strength are recommended for these applications, or alternatively the **300 Series** variable power by template can also be used.

Closer model	Minimum door width		750mm	850mm	950mm
	Size	Setting			
ARROW 300	EN 2-4	EN 2			
ARROW 325	EN 2-5	EN 2			
ARROW 500	EN 1-6	EN 1			

Area where the minimum setting will be light to operate. 

Independence is important to those facing physical challenges. Careful selection of door closers and associated hardware on fire doors can make a real difference.



The closer used on this door is an Arrow 325 variable power model.



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