

# EN 1154 STANDARD

## DOOR CLOSING DEVICES WITH DAMPING

### > SCOPE

It is recommended that door closers manufactured in accordance with this standard be used whenever necessary to have reliable soft closing. Fire doors and/or smoke-proof doors are therefore particularly concerned.

### > PRODUCTS CONCERNED

All surface-mounted or mortise door closers in the door or lintel, as well as floor pivots.

### > DOOR CLOSERS AND FLOOR SPRINGS COMPLIANT WITH STANDARD EN 1154:

GR105 - GR150 - GR200 - GR300 - GR400 - GR450 - GR500 - GRP100 - GRP300 - GRL100 - GRL200  
GR300FS - GR500FS

## MAIN REQUIREMENTS

**1** Closing devices must be classified according to a six-digit code that will be included on the products concerned in a grid of this type:

Opening angle	Number of test cycles	Force of the door closer	Fire resistance Fire	Safety	Corrosion resistance
4	8	3/6	1	1	3

**1<sup>st</sup> character:** refers to performance in relation to the opening angle.

- Grade 3: allows the door to be closed from a minimum opening angle of 105°.
- Grade 4: allows the door to be closed from an angle of 180°.

**2<sup>nd</sup> characteristic:** concerns endurance (number of test cycles). To be compliant, closing devices must be able to close a door from a 90° angle for a minimum of 500,000 test cycles. Only one value is defined: Grade 8.

**3<sup>rd</sup> character:** mass of equipped doors.  
Seven door closer forces are identified according to the weight of the doors to be equipped (from force 1 to 7, see table opposite). When a door closer has a minimum and maximum force, these must be indicated. Example: 2-5 force adjustable from 2 to 5.

**4<sup>th</sup> character:** fire rating.

- Grade 0: unsuitable for use on fire doors/smoke-proof doors
- Grade 1: suitable for use on fire/smoke-proof doors smoke.

**5<sup>th</sup> character:** safety.  
To be compliant, closing devices must meet the essential requirement of safety during use. Only Grade 1 defines this.

**6<sup>th</sup> characteristic:** corrosion resistance. Five possible grades:

- Grade 0: corrosion resistance not defined
- Grade 1: slight corrosion resistance
- Grade 2: average corrosion resistance
- Grade 3: high corrosion resistance
- Grade 4: very high corrosion resistance

**2** Door closers that comply with standard EN 1154 must be able, when installed in accordance with the manufacturer's installation instructions, to close the equipped door from any opening angle.

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To do this, the torque in newton meters provided during opening and closing must be as follows:

Door closer force	Recommended door width mm max	Mass of test door kg	Closing moment				Opening moment between 0° and 60° Max. Nm	Door closer efficiency between 0° and 4° % min
			Between 0° and 4°		Between 88° and 92°	Any other opening angle		
			Nm min.	Nm max.	Nm min.	Min. Nm		
1	>750	20	9	<13	3	2	26	50
2	850	40	13	<18	4	3	36	50
3	950	60	18	<26	6	4	47	55
4	1100	80	26	<37	9	6	62	60
5	1250	100	37	<54	12	8	83	65
6	1400	120	54	<87	18	11	134	65
7	1600	160	87	<140	29	18	215	65

**Note:** Due to their low closing torque, force 1 and 2 door closers should not be considered suitable for use on fire doors. Adjustable force door closers must be able to be set to a force of at least 3.

### 3 Temperature stability (§ 5.2.9)

Within a range of -15°C to +40°C, the closing time of equipped door must remain between 3 and 25 seconds for a 90° opening.

### 4 Final acceleration (optional) (§ 5.2.12)

It must occur over the last 15 degrees of closing and must be adjustable.

### 5 Opening brake (optional) (§ 5.2.13)

The opening brake function is recommended when there is a risk of misuse or specific limitations on the opening angle.

### 6 Closing delay (optional) (§ 5.2.14)

The delay must be adjustable to less than 25 seconds between closing angles between 120° and the minimum delay angle (65°).