

# prEN15685:2009



## Multipoint locks and locking plates

**Example of classification:**

<b>3</b>	<b>X</b>	<b>8</b>	<b>A</b>	<b>0</b>	<b>G</b>	<b>7</b>	<b>3</b>	<b>1</b>
1°	2°	3°	4°	5°	6°	7°	8°	9°

**Category of use (first digit)**

- grade 1:** for use by people with a high incentive to exercise care and with a small chance of misuse (e.g. residential doors)
- grade 2:** for use by people with some incentive to exercise care but where there is some chance of misuse (e.g. office doors)
- grade 3:** for use by the public where there is little incentive to exercise care and where there is a high chance of misuse (e.g. doors in public buildings)

(1)	Return force on the latch	Torque to operate the lock by key	Torque to operate the lock by follower	Strength of stops	Torque resistance lockable follower	Minimum follower restoring torque	Side load on the latch	Strength of follower action	
grade 1:	≥ 2,5 N	≤ 1,2 Nm	≤ 10 Nm	40 Nm	60 Nm	≥ 0,8 Nm	2 kN	30 Nm	20 Nm
grade 2:	≥ 2,5 N	≤ 1,0 Nm	≤ 7 Nm	40 Nm	60 Nm	≥ 0,8 Nm	3 kN	30 Nm	20 Nm
grade 3:	≥ 2,5 N	≤ 0,8 Nm	≤ 5 Nm	60 Nm	80 Nm	≥ 0,8 Nm	3 kN	30 Nm	20 Nm

**Durability (second digit)**

	Latch by handle		Shared latch action (by key and by handle)			Locking points by key
	by handle	Load on latch	by key	by handle	Load on latch	
grade A:	50 000 cycles	0 N	12.500 cycles	37.500 cycles	0 N	10.000 cycles
grade B:	100 000 cycles	0 N	25.000 cycles	75.000 cycles	0 N	25.000 cycles
grade C:	200 000 cycles	0 N	50.000 cycles	150.000 cycles	0 N	50.000 cycles
grade D:	500 000 cycles	0 N	125.000 cycles	375.000 cycles	0 N	125.000 cycles
grade L:	100 000 cycles	25 N	25.000 cycles	75.000 cycles	25 N	25.000 cycles
grade M:	200 000 cycles	25 N	50.000 cycles	150.000 cycles	25 N	50.000 cycles
grade N:	500 000 cycles	25 N	125.000 cycles	375.000 cycles	25 N	125.000 cycles
grade W:	100 000 cycles	120 N	25.000 cycles	75.000 cycles	120 N	25.000 cycles
grade X:	200 000 cycles	120 N	50.000 cycles	150.000 cycles	120 N	50.000 cycles
grade Z:	500 000 cycles	120 N	125.000 cycles	375.000 cycles	120 N	125.000 cycles

**Door mass and closing force (third digit)**

	Door mass	Closing force
grade 1:	up to 100 kg door mass	50 N maximum closing force
grade 2:	up to 200 kg door mass	50 N maximum closing force
grade 3:	above 200 kg door mass as specified by the manufacturer	50 N maximum closing force
grade 4:	up to 100 kg door mass	25 N maximum closing force
grade 5:	up to 200 kg door mass	25 N maximum closing force
grade 6:	above 200 kg door mass as specified by the manufacturer	25 N maximum closing force
grade 7:	up to 100 kg door mass	15 N maximum closing force
grade 8:	up to 200 kg door mass	15 N maximum closing force
grade 9:	above 200 kg door mass as specified by the manufacturer	15 N maximum closing force.

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### Suitability for use on fire/smoke doors (fourth digit)

- grade 0:** not approved for use on fire/smoke resisting door assemblies
- grade A:** for use on smoke door assemblies based on the requirements of prEN15685:2009 Annex A
- grade B:** for use on smoke and fire door assemblies based on a test in accordance with EN 1634-1

### Key identification of lever locks (fifth digit)

- grade 0:** No requirements (e.g. lock operated by cylinder according to EN1303 or EN15684)
- grade A:** Minimum three detaining elements
- grade B:** Minimum five detaining elements
- grade C:** Minimum five detaining elements extended number of effective differs
- grade D:** Minimum six detaining elements
- grade E:** Minimum six detaining elements extended number of effective differs
- grade F:** Minimum seven detaining elements
- grade G:** Minimum seven detaining g elements extended number of effective differs
- grade H:** Minimum eight detaining elements extended number of effective differs

( <sup>1</sup> )	Min. nr. of detaining elements	Min. nr. of effective differs	Min. nr. of differing steps height on key	Non interpassing of keys	Coding protection
<b>grade 0:</b>	No requirements (e.g. lock operated by cylinder according to EN1303 or EN15684)				
<b>grade A:</b>	3	100	2	YES	NO
<b>grade B:</b>	5	1.000	3	YES	YES
<b>grade C:</b>	5	10.000	3	YES	YES
<b>grade D:</b>	6	4.000	3	YES	YES
<b>grade E:</b>	6	20.000	3	YES	YES
<b>grade F:</b>	7	6.000	4	YES	YES
<b>grade G:</b>	7	50.000	4	YES	YES
<b>grade H:</b>	8	100.000	4	YES	YES

grade 0: No safety requirements

### Corrosion resistance and temperature (sixth digit)

	Corrosion resistance	Temperature range
<b>grade 0:</b>	no defined corrosion resistance	no temperature requirement
<b>grade A:</b>	low corrosion resistance (24h NSS)	no temperature requirement
<b>grade B:</b>	moderate corrosion resistance (48h NSS)	no temperature requirement
<b>grade C:</b>	high corrosion resistance (96h NSS)	no temperature requirement
<b>grade D:</b>	very high corrosion resistance (240h NSS)	no temperature requirement
<b>grade E:</b>	moderate corrosion resistance (48h NSS)	from -25 °C to +70 °C
<b>grade F:</b>	high corrosion resistance (96h NSS)	from -25 °C to +70 °C
<b>grade G:</b>	very high corrosion resistance (240h NSS)	from -25 °C to +70 °C

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## Multipoint locks and locking plates

### Security and drill resistance for locking points (seventh digit)

- grade 0:** No security requirement
- grade 1:** Minimum security and no drill resistance
- grade 2:** Low security and no drill resistance
- grade 3:** Medium security and no drill resistance
- grade 4:** High security and no drill resistance
- grade 5:** High security and with drill resistance
- grade 6:** Very high security and no drill resistance
- grade 7:** Very high security and with drill resistance

(1)	Torque resistance of lockable follower	side load on locking point	Min. deadbolt projection before F5 application	End load	Resulting projection after F5 application	Strong key attack on lever locks
	M5	F4	L1	F5	L2	M6
grade 0:	-	-	-	-	-	-
grade 1:	-	1 kN	10 mm	1 kN	8 mm	-
grade 2:	-	3 kN	12 mm	2 kN	10 mm	-
grade 3:	100 Nm	5 kN	14 mm	4 kN	11 mm	100 Nm
grade 4:	150 Nm	7 kN	20 mm	5 kN	17 mm	100 Nm
grade 5:	150 Nm	7 kN / 3 min. drill	20 mm	5 kN / 3 min. drill	17 mm	100 Nm
grade 6:	200 Nm	10 kN	20 mm	6 kN	17 mm	100 Nm
grade 7:	200 Nm	10 kN / 5 min. drill	20 mm	6 kN / 5 min. drill	17 mm	100 Nm

### Security for anti-separation points (eighth digit)

- grade 0:** No security requirement
- grade 1:** Minimum security and no drill resistance
- grade 2:** Low security and no drill resistance
- grade 3:** Medium security and no drill resistance
- grade 4:** High security and no drill resistance
- grade 5:** High security with drill resistance
- grade 6:** Very high security and no drill resistance
- grade 7:** Very high security with drill resistance

(1)	Resistance to pulling of hook/claw device	Resistance to disengaging
	F6	F7
grade 0:	-	-
grade 1:	1 kN	1 kN
grade 2:	3 kN	3 kN
grade 3:	5 kN	4 kN
grade 4:	7 kN	5 kN
grade 5:	7 kN / 3 min. (net drilling time)	5 kN / 3 min. (net drilling time)
grade 6:	10 kN	6 kN
grade 7:	10 kN / 5 min. (net drilling time)	6 kN / 5 min. (net drilling time)

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**Clenching points (ninth digit)**

Clenching	
Force in opening direction to simulate door gaskets	Extra closing stroke Simulate gasket compression
<b>grade 0:</b> -	2,5 mm
<b>grade 1:</b> 10 N	
<b>grade 2:</b> 25 N	
<b>grade 3:</b> 50 N	
<b>grade 4:</b> 120 N	

Durability of clenching (2 <sup>nd</sup> digit)		
Grade	Manually locking	Automatically (self-locking)
A	12.500 cycles	50.000 cycles
B, L, W	25.000 cycles	100.000 cycles
C, M, X	50.000 cycles	200.000 cycles
D, N, Z	125.000 cycles	500.000 cycles