

EN 12209:2013 + AC:2005 – Mechanically operated locks

Classification key



The classification reached by the product is shown on the product itself or on the minimum packaging and in the certificate issued by an independent body

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)

	Return force on the latch F2	Resistance to side load on the latch F2	Torque to operate the deadbolt by key M3	Torque to operate the deadbolt by handle M4	Strength of normal latch action and stops M	Rim lock with lockable handle/knob M10
grade 1:	≥ 2,5 N	≥ 2 kN	≤ 1,5 Nm	≤ 3,0 Nm	≥ 20 Nm	0,4 [kN] x max radius [mm]
grade 2:	≥ 2,5 N	≥ 3 kN	≤ 1,5 Nm	≤ 3,0 Nm	≥ 40 Nm	
grade 3:	≥ 2,5 N	≥ 3 kN	≤ 0,5 Nm	≤ 3,0 Nm	≥ 60 Nm	

Durability (second digit)

	Latch bolt		Deadbolt	
	Latch by handle	Load on latch	Manually operated	Automatically operated (self-locking)
grade A:	50 000 cycles	0 N	10.000 cycles	50 000 cycles
grade B:	100 000 cycles	0 N	25.000 cycles	100 000 cycles
grade C:	200 000 cycles	0 N	50.000 cycles	200 000 cycles
grade G:	100 000 cycles	10 N	25.000 cycles	100 000 cycles
grade H:	200 000 cycles	10 N	50.000 cycles	200 000 cycles
grade L:	100 000 cycles	25 N	25.000 cycles	100 000 cycles
grade M:	200 000 cycles	25 N	50.000 cycles	200 000 cycles
grade R:	100 000 cycles	50 N	25.000 cycles	100 000 cycles
grade S:	200 000 cycles	50 N	50.000 cycles	200 000 cycles
grade W:	100 000 cycles	120 N	25.000 cycles	100 000 cycles
grade X:	200 000 cycles	120 N	50.000 cycles	200 000 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.

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

- grade 0:** not approved for use on fire/smoke resisting door assemblies
grade 1: suitable for use on fire/smoke resisting door assemblies subject to satisfactory assessment of the contribution of the lock or latch to the fire resistance of specified fire/smoke resisting door assemblies Such assessment is beyond the scope of this European Standard

Safety (fifth digit)

- grade 0: No safety requirements

Corrosion resistance and temperature (sixth digit)

	Corrosion resistance	Temperature range
grade 0:	no defined corrosion resistance	no temperature requirement
grade A:	low corrosion resistance (24h NSS)	no temperature requirement
grade C:	high corrosion resistance (96h NSS)	no temperature requirement
grade D:	very high corrosion resistance (240h NSS)	no temperature requirement
grade F:	high corrosion resistance (96h NSS)	from -20 °C to +80 °C
grade G:	very high corrosion resistance (240h NSS)	from -20 °C to +80 °C

Security and drill resistance (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 with drill resistance
- grade 6: Very high security and no drill resistance
- grade 7: Very high security with drill resistance

	Forcing torque on lever handles M9	Torque resistance of knob or lever handle on Rim night latches M10	side load on deadbolt and net drilling time F4	Minimum deadbolt projection before F5 d	End load and net drilling time F5	Resulting projection after F5 application d1	Resistance to pulling of hook/claw bolt F6	Resistance to disengaging of hook/claw bolt F7	Resistance to forcing of locating devices in sliding door lock F8	Resistance to pulling off of knob on bored lock and latch sets F9
grade 1:	20 Nm	-	1 kN	10 mm	1 kN	8 mm	1 kN	1 kN	1 kN	1 kN
grade 2:	30 Nm	-	3 kN	12 mm	2 kN	10 mm	3 kN	2 kN	3 kN	1,5 kN
grade 3:	-	1 kN	5 kN	14 mm	4 kN	11 mm	5 kN	4 kN	4 kN	-
grade 4:	-	1 kN	7 kN	20 mm	5 kN	17 mm	7 kN	5 kN	5 kN	-
grade 5:	-	1 kN	7 kN / 3 min.	20 mm	5 kN / 3 min.	17 mm	7 kN	5 kN	5 kN	-
grade 6:	-	1 kN	10 kN	20 mm	6 kN	17 mm	10 kN	6 kN	6 kN	-
grade 7:	-	1 kN	10 kN / 5 min.	20 mm	6 kN / 5 min.	17 mm	10 kN	6 kN	6 kN	-

Field of door application (eighth digit)

	Type	Application 1	Application 2	Application 3
grade A:	Mortice	Unrestricted application	-	-
grade B:	Mortice	Hinged door	-	-
grade C:	Mortice	Sliding door	-	-
grade D:	Rim	Unrestricted application	-	-
grade E:	Rim	Hinged door	-	-
grade F:	Rim	Sliding door	-	-
grade H:	Mortice	Hinged door	supported	-
grade J:	Rim	Hinged door	Inward opening	-
grade K:	Mortice	Hinged door	-	-
grade L:	Mortice	Sliding door	-	-
grade M:	Rim	Hinged door	-	-
grade N:	Rim	Sliding door	-	-
grade P:	Mortice	Hinged door	Supported	-
grade R:	Rim	Hinged door	Inward opening	-

Type of key operation and locking (ninth digit)

	Type	Locking
grade 0:	Not applicable	
grade A:	cylinder lock or latch	manually locking
grade B:	cylinder lock or latch	automatically locking
grade C:	cylinder lock or latch	manually locking with intermediate locking
grade D:	lever lock or latch	manually locking
grade E:	lever lock or latch	automatically locking
grade F:	lever lock or latch	manually locking with intermediate locking
grade G:	lock or latch without key operation	manually locking
grade H:	lock without key operation	automatically locking

Type of spindle operation (tenth digit)

- grade 0:** lock or latch without follower
grade 1: lock or latch for knob or sprung lever handle operation
grade 2: lock or latch for unsprung lever handle operation
grade 3: lock or latch for heavy duty unsprung lever handle operation
grade 4: lock or latch for heavy duty unsprung lever handle operation specified by the manufacturer

	Torque to withdraw the latch bolt by handle - M2	Strength of bolt actions		Minimum follower restoring torque M8
		Deadbolt components	Latch bolt components	
grade 1:	≤ 0,5 Nm	≥ 30 Nm	≥ 20 Nm	0 Nm
grade 2:	≤ 3,0 Nm	≥ 30 Nm	≥ 20 Nm	≥ 0,6 Nm – 5°
grade 3:	≤ 5,0 Nm	≥ 30 Nm	≥ 20 Nm	≥ 0,6 Nm – 5°
grade 4:	Manuf. Spec.	≥ 30 Nm	≥ 20 Nm	≥ 0,6 Nm – 5°

Key identification requirement (eleventh 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

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