

# BS EN 12209 : 2003

## BS EN 12209 : 2009 Mechanically Operated Locks and Locking Plates

Products tested to British and European standards provide greater durability, longer warranty periods, peace of mind and evidence of professional specification.

BS EN 12209 Specifies the requirements and test methods for durability, strength, security, and function of mechanically operated locks and latches and their locking plates for use in doors, window doors and entrance doors in buildings.

Under the standard each product is tested and classified accordingly to show its compliance. The identification of an 11-digit code is visible on the individual product. Each digit represents a category and how it measured against the standard to which it was tested.

### Digit 1 - Category of use

Three grades are identified in accordance with the requirements:

**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.

### Digit 2 - Durability

Twelve grades of durability and load on latch bolt are identified.

**Grade A:** 50 000 test cycles; no load on latch bolt

**Grade B:** 100 000 test cycles; no load on latch bolt

**Grade C:** 200 000 test cycles; no load on latch bolt

**Grade F:** 50 000 test cycles; 10 N load on latch bolt

**Grade G:** 100 000 test cycles; 10 N load on latch bolt

**Grade H:** 200 000 test cycles; 10 N load on latch bolt

**Grade L:** 100 000 test cycles; 25 N load on latch bolt

**Grade M:** 200 000 test cycles; 25 N load on latch bolt

**Grade R:** 100 000 test cycles; 50 N load on latch bolt

**Grade S:** 200 000 test cycles; 50 N load on latch bolt

**Grade W:** 100 000 test cycles; 120 N load on latch bolt

**Grade X:** 200 000 test cycles; 120 N load on latch bolt

### Digit 3 - Door mass and closing force

Nine grades of door mass and closing force are identified.

**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 or specified by the manufacturer; 50 N maximum closing force

**Grade 4:** up to 100 kg door mass; 25N maximum closing force

**Grade 5:** up to 200 kg door mass; 25N maximum closing force

**Grade 6:** above 200 kg door mass or 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; 15N maximum closing force

**Grade 9:** above 200 kg door mass or specified by the manufacturer; 15 N maximum closing force

### Digit 4 - Suitability for use on fire doors

Two grades of suitability for use on fire/smoke doors are identified.

**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.

### Digit 5- Safety

Only one grade of safety is identified.

**Grade 0:** no safety requirement.

### Digit 6 - Corrosion Resistance and temperature

Eight grades of corrosion resistance and temperature requirement are identified.

**Grade 0:** no defined corrosion resistance; no temperature requirement

**Grade A:** low corrosion resistance; no temperature requirement

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**Grade B:** moderate corrosion resistance; no temperature requirement

**Grade C:** high corrosion resistance; no temperature requirement

**Grade D:** very high corrosion resistance; no temperature requirement

**Grade E:** moderate corrosion resistance; temperature requirement from 20°C to +80°C

**Grade F:** high corrosion resistance; temperature requirement: from 20°C to +80°C

**Grade G:** very high corrosion resistance; temperature requirement: from 20°C to +80°C; therefore only the top grade - 1 - is identified

## Digit 7 - Security and drill resistance

Seven grades of security and drill resistance.

**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

## Digit 8 - Field of door application

15 grades of door application are identified below

Grade	Type	Application 1	Application 2	Application 3
A	Mortice	Unrestricted		
B	Mortice	Hinged door		
C	Mortice	Sliding door		
D	Rim	Sliding door		
E	Rim	Hinged door		
F	Rim	Sliding door		
G	Bored lock	Unrestricted		
H	Mortice	Hinged door	Supported	
J	Rim	Hinged door	Inwards	
K	Mortice	Hinged door		Locked from
L	Mortice	Sliding door		Locked from
M	Rim	Hinged door		Locked from
N	Rim	Sliding door		Locked from
P	Mortice	Hinged door	Supported	Locked from
R	Rim	Hinged door	Inwards	Locked from

## Digit 9- Type of key operation and locking

Nine grades of type of key operation and locking are identified.

**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

## Digit 10 - Type of spindle operation

Five grades of spindle operation are identified

**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.

## Digit 11 - Key identification requirement

Nine grades are identified from 0 to H.

**Grade 0:** No requirements

**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 elements, extended number of effective differs

**Grade H:** Minimum eight detaining elements, extended number of effective differs

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## Example

**2 H 5 1 0 E 5 A F 2 C**

The above code signifies a mechanically operated lock and locking plate for use in an application where people have an incentive to exercise care, able to withstand a durability of 200,000 cycles with a 10 N load on the latch bolt, on a door with a mass of up to 200kg and a maximum closing force of 25N, suitable for use on a fire/smoke resisting door assembly, no safety requirement, moderate corrosion resistance in temperatures ranging from -20°C to +80°C, with high security and drill resistance for any use in any mortice application, with a manual locking lever lock or latch unsprung lever handle operation, a minimum of five deadlocking elements and an extended number of effective differs.

## Product Marking

The standard requires the following additional information to accompany the CE Marking required for locks and latches intended for use on fire resisting doors and smoke control doors.

- a) The identification number of the notified certification body.
- b) The name or identifying mark of the manufacturer.
- c) The registered address of the manufacturer.
- d) The last two digits of the year in which the marking was applied.
- e) The number of the EC certificate of conformity, reference to EN 12209:2003.
- f) The classification code of the product.

