Guide to BS EN 1303:2015

When it comes to security the cylinder is generally the most vulnerable element in any door assembly and is ultimately subject to severe requirements of resistance to physical attack and other aspects of security such as key control.

The European Standard BS EN 1303:2015 establishes assessment and test criteria for a cylinder to quantify its resistance to physical attack, durability and key security.

Using an 8 digit coding system BS EN 1303:2015 classifies cylinders for locks. Durability, fire resistance, key related security and attack resistance are some features which are assessed. The resulting 8 digit code can be used to directly compare the performance of one cylinder range against another.

Durability

Three grades are indentified according to the number of test cycles achieved:

Grade 4: 25,000 Cycles

Grade 5: 50,000 Cycles

Grade 6: 100,000 Cycles

Fire Resistance

Three grades of suitability for use on fire resistant/smoke controlled doors are identified:

Grade 0: Not approved for use on fire resistant/smoke control door assemblies;

Grade A: Suitable for use on smoke control door assemblies;

Grade B: Suitable for use on fire resistant and smoke control

Door Mass

No Requirement.

Safety

No Requirement.

Category of Use

The key shall not break under the applied torque of 2,5 Nm. After the test, the key shall be capable of being removed from the cylinder and re-used to operate the same cylinder with a torque not exceeding 1,5 Nm.

1	6	0	B	0	C	6	D

Corrosion and Temperature Resistance

Four grades of corrosion resistance and temperature requirement are identified:

Grade 0: No corrosion requirement; no temperature requirement;

Grade A: High corrosion resistance; no temperature requirement;

Grade B: No corrosion requirement; temperature requirement: from-25°C to + 65°C;

Grade C: High corrosion resistance; temperature requirement: from-25°C to + 65°C.

Note: It shall be possible to operate the cylinder with its proper key using a maximum torque of 1,5 Nm after tested according to grade 3 (96 hrs) of EN 1670. This corrosion test shall apply to the functionality only. No distinction is made between the inside and the outside of cylinder and/or door.

It shall be possible to operate the cylinder with its proper key using a maximum torque of 1,5 Nm at both-25°C and + 65°C.

Key Related Security

Six grades are identified.

Clause	Requirement	Test Clause	Parameter	Grade						Unit
				1	2	3	4	5	6	
4.8.1	Min. number of effective differs	6.8.1	-	100	300	15,000	30,000	30,000	100,000	No
4.8.2	Min. number of moveable detainers	6.8.2	-	2	3	5	5	6	6	No
4.8.3	Max. number of identical steps[c]	6.8.3	-	100	70	60	60	60	50	%
	Max. number of identical adjacent steps									
4.8.4	Direct coding on key	6.8.4	-	-	-	2	2	2	2	No
4.8.5	Operation of security mechanism (interpassing)	6.8.5	Torque	1.5[a]	1.5[a]	1.5[a]	1.5[b]	1.5[b]	1.5[b]	Nm
4.8.6	Torque resistance of plug/cylinder	6.8.6	Torque	2,5	5	15	15	15	15	Nm

a. Tested before the durability test. b. Tested before and after the durability test. c. Rounded to the lower integer.

Attack Resistance

Five grades of resistance against drilling and mechanical attack are identified.

Clause	Requirement	Test Clause	Parameter	Grade					Unit
				0	A	B	C	D	
4.9.2	Resistance to drilling	6.9.1	Time Net/ Total	-	3/5	5/10	3/5	5/10	Min.
4.9.3	Resistance to attack by chisel	6.9.2	Blows	-	30	40	30	40	No
4.9.4	Resistance to attack by twisting	6.9.3	Twists	-	20	30	20	30	No
4.9.5	Resistance to attack by plug/cylinder extraction	6.9.4	Force Net/ Total	-	-	-	10 5/15	15 5/15	kN min
4.9.6	Torque resistance of plug/cylinder	6.9.5	Torque	-[a]	20	30	20	30	Nm

See requirement of key related security 4.8.6 a.