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DHF
Door & Hardware Federation
raising standards

best practice guide

Cylinder locks to

BS EN 1303: 2005

in association with

gai guild of architectural ironmongers
advancing architectural ironmongery

MASTER LOCKSMITHS ASSOCIATION
MLA

DHF Best practice guide: Cylinders for locks to BS EN 1303: 2005

• DHF BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the appropriate European product standard. The reader will then be in a position to seek further specialist advice where necessary and recognise **GENUINE** conformity to the new standard.

THE STANDARD

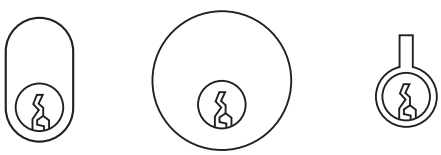
The full title of the European standard is “Building hardware - Cylinders for locks - Requirements and test methods”. Copies can be obtained from:
BSI Customer Services, 389 Chiswick High Road, London W4 4AL
Tel +44 (0)20 8996 9001 Email: orders@bsi-global.com.

SCOPE

a) The European standard to which this document relates, applies to cylinders intended for use on locks in buildings. It identifies just one grade for category of use, three grades of durability, two grades of fire resistance, four grades of corrosion and temperature resistance, six grades of key related security based on design requirements, and three grades of attack resistance based on mechanical performance tests.
b) The suitability of cylinders for use on fire/smoke door assemblies is determined by fire performance tests conducted in addition to the mechanical performance testing required by the European standard. Suitability for use on fire resisting doors may not be essential in every situation.
c) On occasions there may be a need for additional functions within the design of the cylinder not covered by the European standard. In such cases purchasers should ensure that the products are suitable for their intended use. This is particularly important when the operation of such additional functions is safety related.

• CYLINDER TYPES

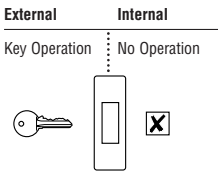
Euro *UK Oval* *Rim*



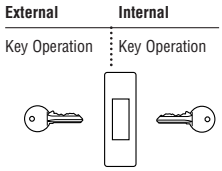
Scandinavian Oval *Screw-In* *Knobset*

• APPLICATION

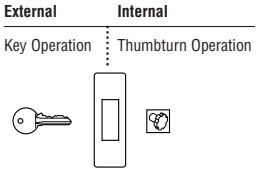
Single Cylinder



Double Cylinder



Thumbturn Cylinder



• SPECIFICATION ISSUES

1) All members of the EEA (European Economic Area) use the same product standard.
2) Products complying with the European standard provide peace of mind and evidence of professional specification.
3) Product selection should be made on the basis of the building use, occupancy and particular application.

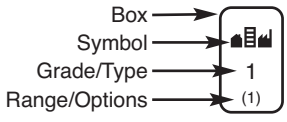
NOTE:

1) BS EN 1303: 2005 is cited in BS EN 12209: 2003, BS 3621: 2004 and BS 8621: 2004 for requirements and tests relating to the cylinder part of the lock (where applicable).
2) This standard has been adopted as a British standard and should be used in specifications.
If in doubt contact your local GAI registered architectural ironmonger, master locksmith or manufacturer.

• CLASSIFICATION

BS EN 1303: 2005 classifies cylinders for locks using an 8 digit coding system. A broadly similar classification system is used for other building hardware product standards. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

DHF recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product classification is represented by an icon showing a representative symbol, the grade or class, and the range options.



Full details of the DHF graphic icons system can be found on the website at www.dhfonline.org.uk

Digit 1
Category of use

One category is identified:

Grade1: Keys shall resist a torque of 2.5Nm and still be usable.

Digit 2
Durability

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

Grade 4: 25 000 cycles
Grade 5: 50 000 cycles
Grade 6: 100 000 cycles

Digit 3
Door mass

No requirement.

Digit 4
Fire resistance

Two grades are identified as follows:-

Grade 0: not suitable for fire/smoke resistant door assemblies
Grade 1: suitable for fire/smoke resistant door assemblies subject to satisfactory assessment of the contribution of the cylinder to the fire resistance of the specified fire/smoke door assemblies. Such assessment is beyond the scope of this European standard (see EN 1634-1).

Digit 5
Safety

No requirement.

Digit 6
Corrosion and temperature resistance

Four grades are identified as follows:-

Grade 0: no corrosion or temperature resistance requirements
Grade A: BS EN 1670 Grade 3 corrosion resistance (96 hours NSS): no temperature resistance requirement
Grade B: No corrosion resistance requirement: resistance to -20/+80°C temperature extremes
Grade C: BS EN 1670 Grade 3 corrosion resistance: resistance to -20/+80°C temperature extremes

Note:
- No distinction is made between the inside and the outside of either the cylinder and/or the door.
- On completion of the test, the cylinder must operate using a maximum 1.5 Nm torque on the key.

Digit 7
Key related security

Six grades are identified and the principal requirements are summarised in Table 1 below:-

Table 1: Key related security

	Grade					
	1	2	3	4	5	6
Minimum number of effective differs	100	300	15 000	30 000	30 000	100 000
Minimum number of movable levers, pins, discs, etc	2	3	5	5	6	6
Coding on key could disclose combination	Yes	Yes	No	No	No	No
Torque resistance of plug	2.5Nm	5Nm	15Nm	15Nm	15Nm	15Nm

Digit 8
Attack resistance

Three grades are identified and the principal requirements are summarised in Table 2 below:-

Table 2: Attack resistance

	Grade		
	0	1	2
Resistance to drilling (nett drilling time)	-	3 mins	5 mins
Resistance to chisel attack (number of defined blows)	-	30	40
Resistance to twisting attack (number of defined twists)	-	20	30
Resistance to plug/cylinder extraction (pull load)	-	15 kN	15 kN
Torque resistance of plug/cylinder	-	20 Nm	30 Nm

• EXAMPLE:

The following marking denotes a cylinder meeting the required category of use Grade 1, durability Grade 6 (100 000 cycles), no requirement for door mass, no fire resistance or safety in use requirement, having Grade A corrosion resistance, Grade 4 key related security and Grade 1 attack resistance.

• MARKING

BS EN 1303: 2005 requires that the classification relevant to the cylinder shall be quoted in the accompanying documentation, on its labelling or packaging and/or by marking the product itself or by more than one of these methods.

The marking/labelling shall include the following:

(a) manufacturer's name or trademark, or other means of identification.
(b) product model identification.
(c) the eight digit classification listed above.
(d) number of the European standard.

• CE MARKING

BS EN 1303 has not been designated as a harmonised product standard under the Construction Products Directive and therefore CE marking of cylinders to this standard is NOT permitted.

British standards can be obtained from
BSI Customer Services,
389 Chiswick High Road, London W4 4AL
Tel: +44 (0)20 8996 9001
E-mail: cservices@bsi-global.com

Additional important considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting locks, latches and locking plates. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

• QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All DHF hardware manufacturing members operate recognised BS EN ISO 9000 Quality Assurance Schemes.

Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

• SUPPORT SERVICE

The correct installation of cylinders in locks and latches, where required, together with their locking plates is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from DHF members in support of their products from specification stages through supply to effective operation on site.

• CONFORMITY

Conformity to the standard must be clearly and unequivocally stated. Such phrases as "tested to ...", "designed to conform to ...", "approved to ...", are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity:

a) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1303: 2005. Test reports and/or certificates are available upon request.

b) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1303: 2005 including the additional requirements for fire/smoke door use*. Test reports and/or certificates are available upon request.
*Add as appropriate.

c) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1303: 2005 including the additional requirements for fire/smoke door use*. Regular audit testing is undertaken.
Test reports and/or certificates are available upon request.
*Add as appropriate.

DHF PROFILE

The Door and Hardware Federation (DHF) was created by a merger between the Association of Building Hardware Manufacturers (ABHM) and the Door and Shutter Manufacturers Association (DSMA), both of which have established excellent reputations in their respective industries, particularly in the area of technical expertise and the development of performance standards in national and international arenas.

The DHF aims to build on these reputations by exploiting the synergies that exist between the two associations and combining their technical and financial resources to provide a unified, authoritative voice for the entire industry.

The DHF and its members have consistently risen to the challenges posed by an ever-changing market, creating products which meet the needs of a changing world and developing performance standards alongside national and international organisations, such as BSI and CEN, which enable the industry to select and compare products with confidence.

The federation now represents the interests of manufacturers and installers of industrial, pedestrian and garage doors as well as manufacturers of locks and building hardware. It provides professionals in all sectors of the building industry with a single source for technical expertise and creates a more powerful and representative lobbying force, with the ultimate aim of assuring progress and maintaining standards throughout the industry.

British Hardware Federation
BHF represents some 3,500 ironmongery, hardware and DIY shops in the United Kingdom. In addition, it embraces the Independent Builders Merchants Service, a specialist division of the Federation.

Builders Merchants' Federation
The Builders Merchants' Federation represents the majority of bona fide merchants in the UK. Its members have a combined turnover of £6 billion a year. Members range from large nationals to small independents.

Guild of Architectural Ironmongers
Founded in 1961, the Guild represents 95% of bona fide distributors within the UK and the majority of manufacturers of architectural ironmongery. The Guild serves to further all aspects of architectural ironmongery by promoting the interchange of information to encourage better product design and high professional standards of ironmongery scheduling and specification.

Master Locksmiths Association
The MLA is recognised by the Home Office, Police and The British Standards Institution as being the authoritative body for locksmithing. It was formed to promote the membership to Central and Local Governments, Industry, Commerce and the Public.

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