



**Association of Building
Hardware Manufacturers**

Best practice guide

Door and window
bolts to
BS EN 12051

in association with



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• **ABHM 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 new 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 standards.

• **BS EN 12051 Door and window bolts**

This standard details performance requirements and test methods in relation to use (abuse), durability, fire resistance, safety in use, corrosion resistance, and security, with information on classification and marking. Complete editions of this standard can be obtained by post from BSi Customer Services, BSi Standards, 389 Chiswick High Road, London W4 4AL

• **SCOPE**

The standard covers single point bolts and associated keeps, used to secure, or increase the security of doors and windows in buildings providing that movement of the shoot is by direct hand or foot operation. It includes bolts operated by lever, knob, slide, pull, etc. or by a removable device, though not a multiple differ key, from the protected side of the leaf only. Spring engaging bolts and bolts with locking facility are included if they are, by definition, bolts.

Types of bolt covered by the standard include:

- Barrel bolts, tower bolts
- Foot bolts, drop bolts, square spring bolts, garage door bolts
- Flush bolts (slide, knob, lever or automatic action)
- Padlock bolts
- Privacy bolts
- Mortice bolts (operated by removable device, knob, lever, etc.)

The standard does not include cremone/espagnolette type bolts or bolts used for emergency exit or panic devices.

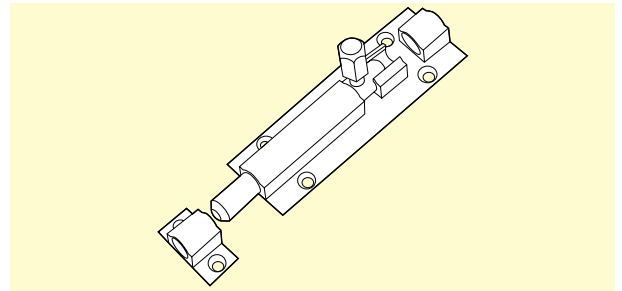
• **SPECIFICATION ISSUES**

- 1) All European countries will use the same product standard.
- 2) Products complying with the new 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.

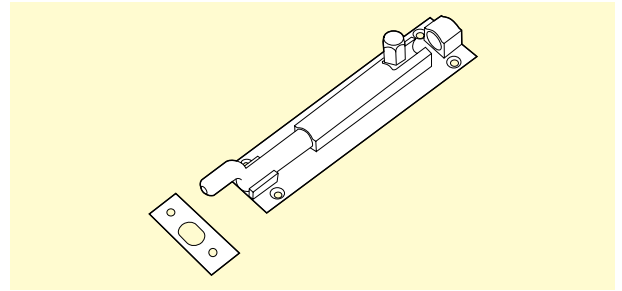
NOTE:

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.

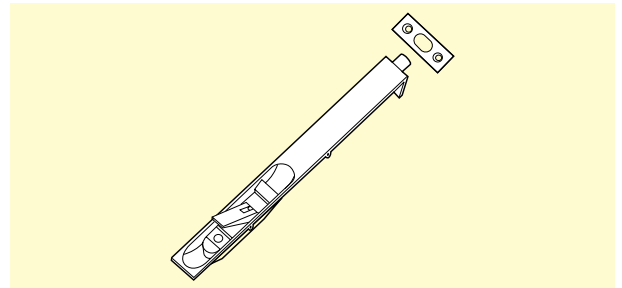
• **TYPES OF BOLT**



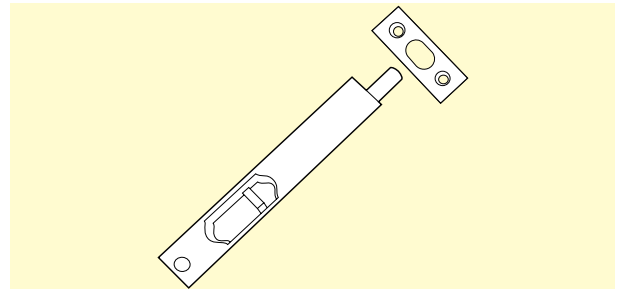
Barrel Bolt - Straight.



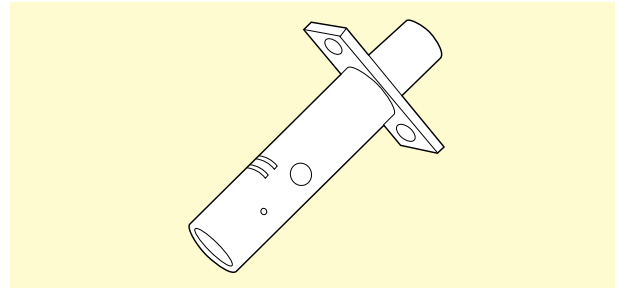
Barrel Bolt - Necked.



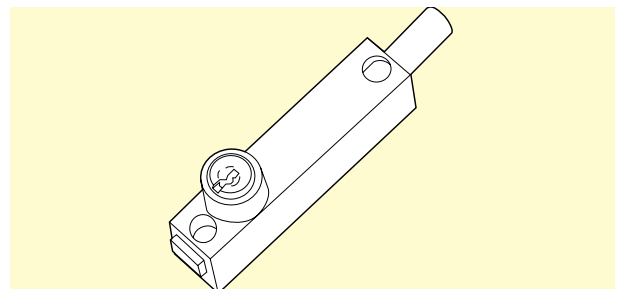
Flush Bolt - Lever Action.



Flush Bolt - Slide Action.



Mortice Rack Bolt.



Press Bolt (removable key).

• CLASSIFICATION

This standard classifies door and window bolts using a 7-digit coding system. It is intended that a similar classification system will apply to all building hardware product standards, so that complementary items of hardware can be specified to a common level of durability, security, corrosion resistance, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7
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Digit 1 - Category of use

Four grades are specified for category of use:

- grade 1: low frequency of use by those with a high incentive to exercise care.
- grade 2: medium frequency of use, primarily by those with some incentive to exercise care
- grade 3: high frequency of use by the public and others with little incentive to exercise care.
- grade 4: subject to frequent violent usage

Table 1 of the standard quotes figures for the maximum abuse force within each category of use that a product can be expected to withstand at the operating point (lever, knob, key, etc.).

Digit 2 - Durability (no. of test cycles)

Four grades are specified as follows:

- grade 1: 2 500 cycles
- grade 2: 5 000 cycles
- grade 3: 10 000 cycles
- grade 4: 50 000 cycles

Digit 3 - Door mass

No requirement

Digit 4 - Fire resistance

Two grades are identified:

- grade 0: no requirement
- grade 1: products shall be fire tested in accordance with current fire test requirements.

Digit 5 - Safety in Use

Two grades are identified:

- grade 0: no requirement
- grade 1: products shall be capable of operating with a side load of 250 N on the bolt, and also after a side load of 1000 N has been applied.

Digit 6 - Corrosion resistance

Five grades of corrosion resistance are identified according to BS EN 1670.

- grade 0: no defined corrosion resistance
- grade 1: mild resistance (normally dry interiors)
- grade 2: moderate resistance (interiors subject to condensation)
- grade 3: high resistance (damp interior/exterior)
- grade 4: very high resistance (polluted exterior - industrial/coastal)

Digit 7 - Security

Five grades of security are identified with figures for end load on shoot, resulting projection, resistance to sawing, and sideload on shoot.

Grade	Resistance to end load N	Resulting projection mm	Resistance to sawing (time) min	Resistance to side load N
1	0	12	0	500
2	1 500	12	0	1 500
3	3 000	12	0	4 500
4	4 000	15	2	7 000
5	5 000	17	5	10 000

Example:

The following marking denotes a door bolt meeting category of use grade 3, durability grade 4, no door mass requirement, no fire or safety in use requirement, corrosion grade 3 and security grade 5:-

3	4	-	0	0	3	5
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• MARKING

This standard requires that the classification relevant to the product shall be quoted in literature, accompanying documentation, on its labelling or packaging and/or by marking the product itself.

The marking/labelling shall include:-

- (a) Manufacturer's name, trade mark or other means of positive identification
- (b) The 7 digit classification coding
- (c) The number and date of the European standard
- (d) The month and year of manufacture (may be coded)

• CE marking

It is not mandatory for bolts to be manufactured to BS EN 12051 and they will not therefore carry a CE mark.

Additional important considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting door and window bolts. 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 ABHM 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 specification and installation of door and window bolts is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from ABHM 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 12051. 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 12051 including the additional requirements for fire/smoke door use*. Test reports and/or certificates are available upon request.
**As appropriate.*
- c) This product has been successfully type-tested for conformity to all of the requirements of BS EN 12051 including the additional requirements for fire/smoke door use*. Regular audit testing is undertaken. Test reports and/or certificates are available upon request.
**As appropriate.*

ABHM PROFILE

Formed in 1897 to represent the interests of brassfounders, the ABHM and its members has been instrumental in the industry's advancement over the last 100 years.

Innovations in material and manufacturing technologies as well as changes in the building industry throughout the world have resulted in the development of a wide range of new products and practices. These advances have, in turn, required new skills and knowledge from the designer and manufacturer of the products themselves through to the specifiers, stockists and installers in the various sectors of the building industry.

The Association and its members have consistently risen to this challenge, 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 hardware with confidence.

The advances made throughout the industry are reflected in the Association's structure, the diversity of its membership and the wide range of activities in which it is involved. The ABHM now represents the United Kingdom's leading manufacturers of builders' hardware, architectural ironmongery and door and window fittings as well as providing the technical expertise essential for the formulation of performance standards at home and abroad.

All member are listed in a Product Guide which includes an easy to use matrix of products and services available from each member.

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.



ABHM

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