Best Practice ✓
Guide

Raising Standards
Safety Assured

Door and Window Bolts

to **BS EN 12051: 2000**

dhf Best Practice Guide:
Door and Window Bolts to **BS EN 12051: 2000**

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 new European product standards. The reader will then be in a position to seek further specialist advice where necessary and recognise GENUINE conformity to the new standards.

NOTE: Unless stated otherwise, references in this document to BS EN 12051 refer to BS EN 12051:2000 Information in this guide is correct at time of publication and intended for guidance only. Information may since have changed and readers should consult the appropriate standards and authorities to confirm its veracity.

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.

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Scope

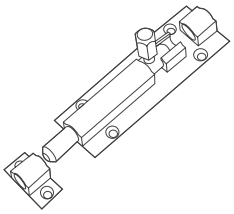
The standard covers single point bolts and associated keeps, used to secure, or increase the security of doors and windows in buildings providing that movement of the shoot is by direct hand or foot operation. It includes bolts operated by lever, knob, slide, pull, etc. or by a removable device, though 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:

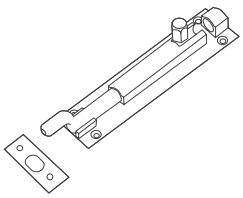
- Barrel bolts, tower bolts
- Foot bolts, drop bolts, square spring bolts, garage door bolts
- Flush bolts (slide, knob, lever or automatic action)
- Padlock bolts
- Privacy bolts
- Mortice bolts (operated by removable device, knob,lever, etc.)

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

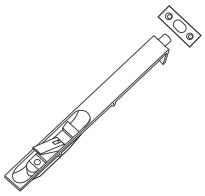
Types of bolt



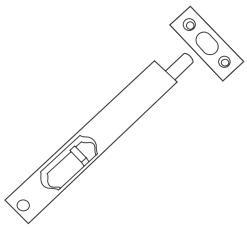
Barrel Bolt - Straight.



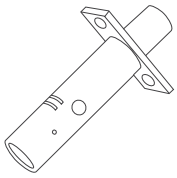
Barrel Bolt - Necked.



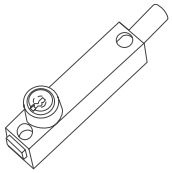
Flush Bolt - Lever Action.



Flush Bolt - Slide Action.



Mortice Rack Bolt.



Press Bolt (removable key).

Specification Issues

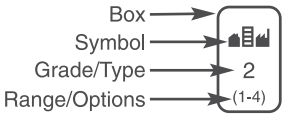
1. All European countries will use the same product standard.
2. Products complying with the new European standard provide peace of mind and evidence of professional specification.
3. Product selection should be made on the basis of the building use, occupancy and particular application.

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.

Classification

BS EN 12051 classifies door and window bolts by using a 7-digit coding system. A similar classification system applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. 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 comprising four elements; Symbol, Grade/Type, Range/Options and Box:-



The icon above is for a product which meets Grade 2 in the Category of Use classification, where EN 12051 stipulates a range of four possible grades from 1 to 4.

Full details on the **dhf** graphic icons system is available upon request.

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
Test door mass

No requirement

Digit 4
Fire resistance

Two grades are identified:

- 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 single axis hinge 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 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)

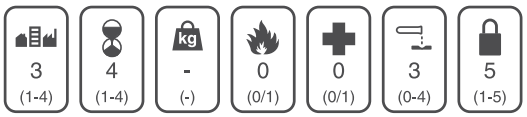
Digit 7
Security

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 resistance or safety in use requirement, corrosion grade 3 and security grade 5:-



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

BS EN 12051 has not been designated as a harmonised product standard under the Construction Products Directive, and therefore CE Marking of such door & window bolts is NOT permitted.

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.

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.

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

Support Service

The correct specification and installation of panic and emergency exit devices 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.* Add 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. * Add as appropriate.

It is recommended that an ARGE Declaration of Compliance is also completed, as this gives a clear and unambiguous method of demonstrating test evidence and compliance.

dhf

dhf (Door and Hardware Federation) was created by a merger between the Association of Building Hardware Manufacturers (ABHM) and the Door and Shutter Manufacturers Association (DSMA), both of which had 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.

dhf has built 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.

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.

dhf now represents all the key players in the following sectors: locks and building hardware, doorsets, industrial doors and shutters, domestic garage doors and automated gates/traffic barriers.

With the ultimate aim of maintaining and raising quality standards throughout the industry, all dhf members must meet minimum standards of competence and customer service. They all operate within a Code of Conduct governing standards of workmanship, quality assurance, training, safety, business integrity and CE marking compliance.

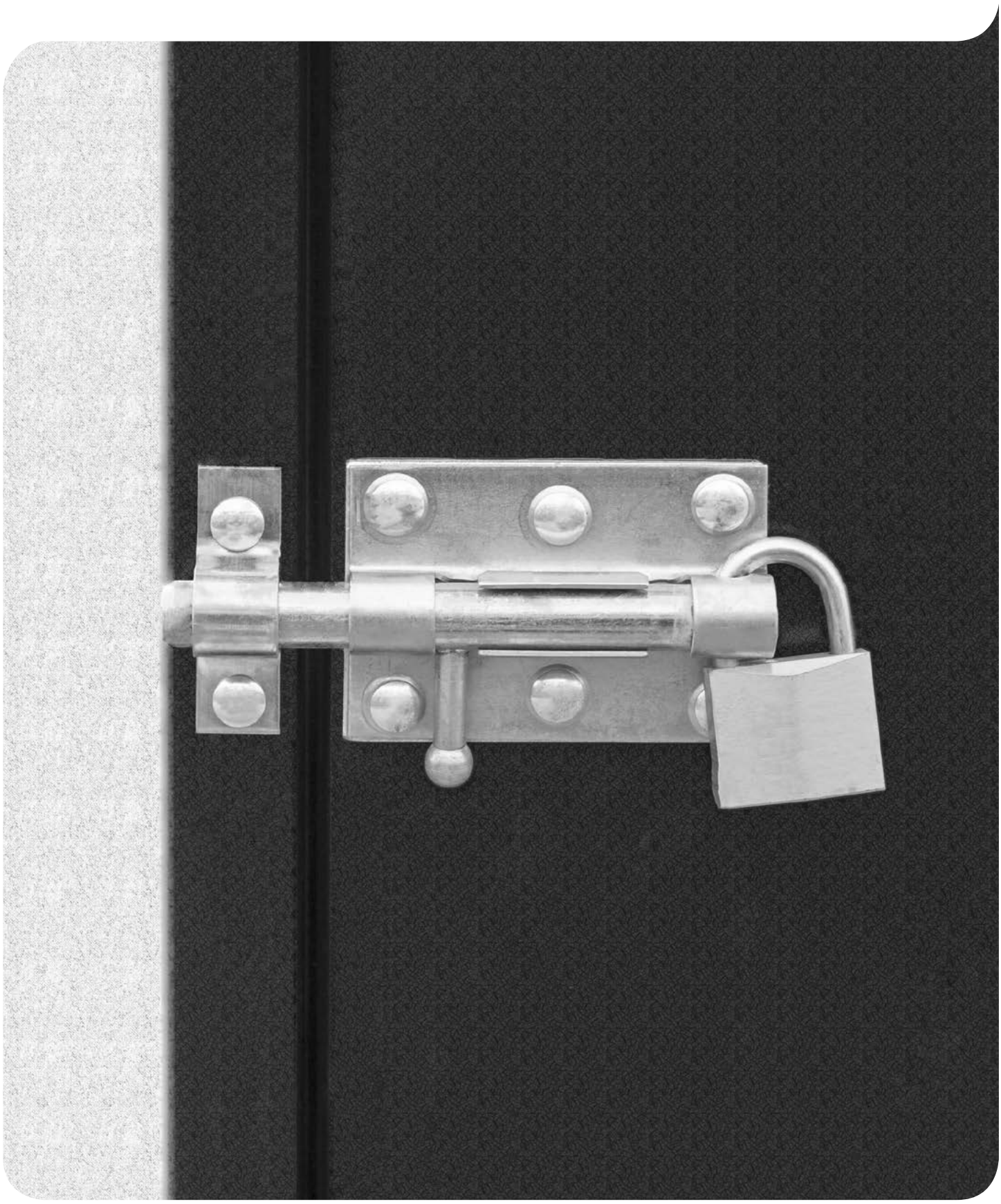
Guild of Architectural Ironmongers

Founded in 1961, the GAI represents the majority of Architectural Ironmongers in the UK. The GAI serves to further all aspects of architectural ironmongery by promoting the interchange of information to encourage better products design and high professional standards of ironmongery scheduling and specification. GAI has also expanded its offering to include overseas clients, who are increasingly taking advantage of its comprehensive education programme.

Master Locksmiths Association

The MLA is the leading trade association for the locksmithing industry. It is recognised as the authoritative body by the police, government, insurers and other such groups. MLA licenced companies can provide customers with peace of mind regarding the security of their property. Its members undergo strict vetting and regular inspections.

This document has been produced in association with **Guild of Architectural Ironmongers (gai)** and **Master Locksmiths Association (MLA)**.



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