• BS EN 1906 Building Hardware - Lever handles and knob furniture

This standard details performance requirements and test methods in relation to corrosion resistance, security and other aspects pertaining to the application of lock and latch furniture.

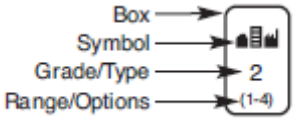
• SCOPE

The European standard specifies the performance requirements and test methods (i.e. durability, static strength, operating torque, corrosion, safety, etc.) for sprung and unsprung lever handles and knobs for doors on backplates or roses. It applies only to lever handles and knobs that operate a lock or latch. The standard has 4 grades of performance. Compliance with the standard ensures a margin of strength in excess of that needed for normal operation. The standard has additional graded safety requirements where a high risk of falling exists.

• CLASSIFICATION

BS EN 1906 classifies door furniture by using an 8 digit coding system. A similar classification 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.

The 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 1906 stipulates a range of four possible grades from 1 to 4.

Digit 1
Category of use

Four grades are identified:-

- grade 1: medium frequency of use with a high incentive to exercise care and a small chance of misuse, e.g. internal residential doors;

- grade 2: medium frequency of use by people with some incentive to exercise care but where there is some chance of misuse, e.g. internal office doors; - grade 3: high frequency of use by public or others with little incentive to exercise care and with a high chance of misuse, e.g. public office doors;

- grade 4: high frequency of use on doors which are subject to frequent violent use, e.g. football stadiums, oil rigs, barracks, public toilets, etc.

Digit 2
Durability

Two grades of durability are identified:-
Grade 6: medium use - 100 000 cycles
Grade 7: high use - 200 000 cycles

The tests undertaken to achieve these grades involve the application of additional forces to the door furniture in order to simulate the conditions of use likely to be experienced in the field.

Digit 3
Test door mass

No requirement

Digit 4
Fire resistance

Two grades of fire resistance are identified:-

- grade 0: not approved for use on fire/smoke door assemblies

- grade 1: suitable for use on fire/smoke door assemblies.

Note: A Grade 1 classification means only that the furniture has been designed for use on fire/smoke control doors; the actual fire performance achieved (e.g. fire integrity of 30 minutes on a partially glazed timber door etc.) will be contained in a separate fire test report.

Digit 5
Safety

Two grades of safety are identified:-

- grade 0: normal use

- grade 1: safety application - to qualify for this grade, handles must have high strength handle-to-plate and plate-to-door fixing and/or handle-to-spindle fixing, such that they would withstand a person grabbing in order to prevent falling. It is recommended that only Safety Grade 1 furniture is used at the top of cellar steps or other staircases.

Digit 6
Corrosion resistance

Five grades are identified according to EN 1670:-

- grade 0: no defined corrosion resistance
- grade1: mild resistance - minimum requirement for internal use
- grade 2: moderate resistance
- grade 3: high resistance - minimum requirement for external use
- grade 4: very high resistance - recommended for use in exposed marine atmospheres or very polluted industrial environments.

Note: Products intended to develop a natural patina (such as bronze or brass) are not required to comply with any requirements.

Digit 7
Security

Four grades are identified:-

Grade 0 : not approved for use on burglary resistant doors

- grade 1: mild burglary resistance
- grade 2: moderate burglary resistance
- grade 3: high burglary resistance
- grade 4: extra high burglary resistance

Note: The main requirements include resistance to drilling, close fitting plates or escutcheons to help protect the lock and support the cylinder. They must be resistant to removal from the outside of the door and make provision to minimise the cylinder projection to a maximum of 3mm. Full details of the requirements can be found in BS EN 1906.

Digit 8
Type of operation

Three operation types are identified:-

- type A: spring assisted furniture
- type B: spring loaded furniture
- type U: unsprung furniture

• EXAMPLE:

The following marking denotes a lever handle for high frequency use on a door that is also subject to frequent violent usage. There is no classification for door mass, but it is suitable for use on fire/smoke door assemblies, and for where safety is important. It has a very high corrosion resistance suitable for external doors. It has high burglarly resistance and is of the unsprung type.