

**Association of
Builders
Hardware
Manufacturers**

Best practice guide

Electrically powered
hold-open devices
to
BS EN 1155

in association with



*Extracts from BS EN 1155: 1997
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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 1155 - Electrically powered hold-open devices for swing doors

The standard provides details on product types, classification by use, test cycles, door mass, corrosion resistance, as well as definitions, product performance requirements, test apparatus, test methods and marking of products. In addition, the published standard includes annexes illustrating the various points made through diagrams and supplementary text. Complete editions of the standard can be obtained from Customer Services, BSI Standards, Chiswick High Road, London W4 4AL.

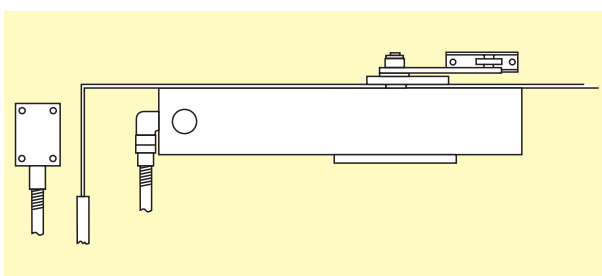
Note: No previous British Standard existed for electrically powered hold-open devices incorporated in door closers and this is, therefore, a new standard. Devices not incorporated in door closers operating at 24 V dc are included in this standard. Devices not incorporated in door closers operating at 240 V ac are covered by BS 5839: Pt. 3: 1988, and this will be amended in due course.

• SCOPE

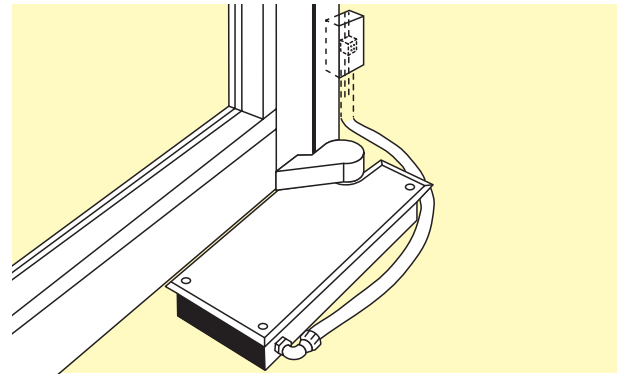
This European standard specifies requirements for separate hold-open devices and also for hold-open mechanisms incorporated in a door closer. Electrically powered hold-open devices for swing doors manufactured according to this European standard can hold a swing door at a fixed position or can allow the door to swing freely. In each case interruption of the electrical supply will cause the controlled door to close positively.

Electrically powered hold-open devices manufactured in accordance with this European standard are recommended for use wherever there is a requirement for reliable hold-open and release of self-closing fire/smoke door assemblies.

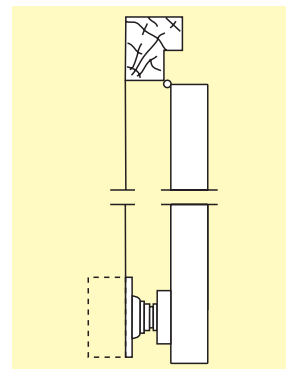
Whilst these devices can incorporate smoke or fire detection elements, the performance of those particular elements is outside the scope of this European standard.



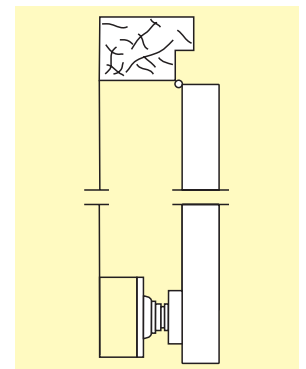
Electrically operated hold-open/free swing overhead door closer surface mounted



Electrically powered hold-open/free swing floor concealed closer



Semi-flush fixing



Surface fixing

Electrically powered separate hold-open devices for use with a separate door closing device

• CLASSIFICATION

This standard classifies electrically powered hold-open devices using a 6 digit coding system. This 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.

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

Only one category of use is identified for electrically powered hold-open devices.

- grade 3: for doors for use by the public, and others, with little incentive to take care, i.e. where there is some chance of misuse of the door.

Note: for electrically powered hold-open and free-swing door closers, where the opening angle is limited by the device, provision of a separate door stop should be considered.

Digit 2 - Number of test cycles

Two test durations are identified for devices manufactured to this European standard:

- grade 5: 50 000 test cycles. For all electrically powered hold-open devices

- grade 8: 500 000 test cycles. For all electrically powered hold-open and free-swing door closers and devices that contain operating arms.

Digit 3 - Test door mass

Five door mass grades and related hold-open power sizes are identified according to Table 1 of this European standard.

Where an electrically powered hold-open device is suitable for a range of door closer power sizes, both the minimum and maximum power sizes shall be shown.

Table 1

Hold-open power size	Recommended door leaf width max. mm	Test door mass kg
3	950	60
4	1100	80
5	1250	100
6	1400	120
7	1600	160

Digit 4 - Fire resistance

Only one grade of fire resistance is identified for electrically powered hold-open devices manufactured to this European standard:

- grade 1: Suitable for use on fire/smoke door assemblies subject to satisfactory assessment of the contribution of the electrically powered hold-open device to the fire resistance of specified fire/smoke door assemblies. Such assessment is outside the scope of this European standard (see prEN 1634-1).

Digit 5 - Safety

Electrically powered hold-open devices are required to satisfy the Essential Requirement of safety in use. Therefore only grade 1 is identified.

Digit 6 - Corrosion resistance

Five grades of corrosion resistance are identified in accordance with prEN 1670:

- grade 0: no defined corrosion resistance.
- grade 1: mild resistance.
- grade 2: moderate resistance.
- grade 3: high resistance.
- grade 4: very high resistance.

Example:

The following marking denotes a separate hold-open device suitable for a range of closer power sizes from 4 to 6, and with high resistance to corrosion:

3	5	6 4	1	1	3
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• RELATED STANDARDS

As companion to BS EN 1155 two further product standards are in existence. BS EN 1154 covers controlled door closing devices, BS EN 1158 covers door coordinator devices (selectors) for use with single swing double doors with rebated meeting stiles.

• MARKING

Each electrically powered hold-open device manufactured to this European standard shall be marked with the following:

- (a) manufacturer's name or trademark, or other means of identification.
- (b) product model identification.
- (c) the six digit classification listed above.
- (d) power consumption and rated voltage of the device.
- (e) number of this European standard.
- (f) year and week of manufacture.

Note: This information can be in coded form.

• CE MARKING

This standard has been prepared for use as a 'harmonised standard' to demonstrate conformity with the requirements of European directives and, as such, it is intended that the products will, in due course, carry the CE mark. Until this final decision is made, CE marking is not permitted. When used on fire doors these products have a critical safety function and it will, therefore, be necessary for manufacturers to operate a quality system such as ISO 9000.

• SPECIFICATION ISSUES

- All devices manufactured to this standard shall be designed for a rated supply voltage of 24V direct current with a ripple content of no more than 30%.

- Electrically powered hold open and free swing door closers shall conform to the requirements of BS EN 1154.

When designed for use on fire door assemblies, electrically powered hold-open devices representative of their type shall have been incorporated in successful, full size fire door tests (currently BS 476: Pt. 22).

- The Standard allows electrically powered door closers an element of creep towards the closed position (not more than 2° in 48 hours). Consideration should be given to this effect at the time of specifying. An alternative solution could be wall or floor mounted electro-magnets with standard floor spring independent door closers.

- When using independent wall or floor electro-magnets attention should be paid to the positioning of the magnet in order to minimise stress on the door assembly. Ideally the magnet and door closing device should be at the same level thus avoiding twist.

- It is important that, where separate electro-magnet devices are used, the holding power of the magnet is matched to the door closer strength.

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting electrically powered hold-open devices. 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 installation of electrically powered hold-open 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 TO BS EN 1155

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 1155. 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 1155 including the additional requirements covered by BS EN 1154 for latch action*/backcheck/adjustable closing force*/fire/smoke door use*. Test reports and/or certificate 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 1155 including the additional requirements covered by BS EN 1154 latch action*/backcheck/adjustable closing force*/fire/smoke door use*. fire/smoke door use.* Regular audit testing is undertaken. Test reports and or certificates are available on request.

** Add 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 members 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.



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