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BS 8613: 2017 FINGER PROTECTION DEVICES FOR PEDESTRIAN DOORS. SPECIFICATION. SAFETY REQUIREMENTS AND TEST METHODS

GAI Guide to Standards

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BS 8613: 2017 FINGER PROTECTION DEVICES FOR PEDESTRIAN DOORS. SPECIFICATION. SAFETY REQUIREMENTS AND TEST METHODS

GAI GUIDE TO STANDARDS

The Guild of Architectural Ironmongers have published a series of “GAI Guides to Standards” relating to British or European Standards which are relevant to the architectural ironmongery industry. They highlight background and detail on the relevant product, provide information on the specific standard and explain what harmonisation is, where applicable. This GAI Guide relates to finger protection devices.

BACKGROUND

DEFINITION

A finger protection device is defined in BS 8613 as a "device intended to minimize the risk of crushing injuries to fingers in the gap between the hanging stile of the door leaf and the door frame"

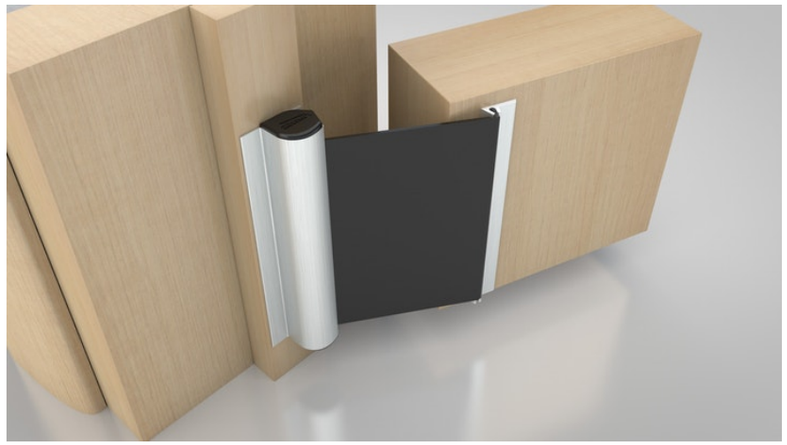
REASON FOR STANDARD

The standard addresses a need by providing specifiers; architects/designers; health & safety and risk assessment professionals; and facility managers with guidance on the selection of appropriate finger protection products to prevent entrapment at the hanging stile of doors. The NHS has published extrapolated figures suggesting that circa 80,000 accidents occur per annum involving primarily children who have trapped their fingers in doors, leading to serious injury, and even amputations. Royal Society for the Prevention of Accidents have projected a figure of 40,000 each year. These figures are based on A&E admissions. Many more accidents go unreported. These figures demonstrate that child safety at mechanically operated and automatic doors is paramount. The HSE do not have any specific guidance on this topic, therefore a standard such as this gives a benchmark for such professional bodies to refer to. It is also there to assist manufacturers in designing acknowledged fit-for-purpose products. Specifiers could select on the basis of known performance values, thus fulfilling their duty of care.
BS 8613 has been produced to give guidance on the best finger protection devices for doors. There are a variety of products already on the market, however there is no guidance as to what works well, what fails easily, what is durable and what is truly safe in use. This standard answers these questions and provides a benchmark of safety to help manufacturers design fit-for-purpose products. It will also help specifiers select devices on the basis of known performance values, thus fulfilling their duty of care.
Finger entrapment in doors might result in serious injuries that can have long term effects such as amputation, or in less severe cases, require significant hospital treatment. Preventing such injuries is therefore important. Where automatic swing doors are fitted, it is a requirement of BS EN 16005 that fingertrap protection be used at the hanging stile(s) of the doorset.

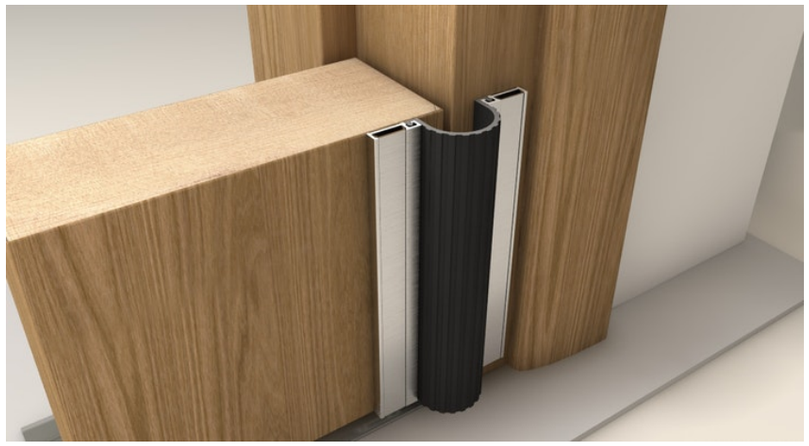
It is children who suffer a disproportionate number of finger entrapmentinjuries, though adults are also at risk. Because of their lack of understanding of the dangers presented by doors, young children might put their fingers into the gap between a door and its frame without any awareness of the possible consequences. Older children and adults are likely to be aware of the risks but might inadvertently put their fingers into the gap. This British Standard therefore covers the needs of all age groups.

TYPES OF FINGER PROTECTION DEVICE

There are different types of finger protection device available, some cover the gap between door and frame, others are integrated within the door system itself. – Here are some illustrations of some of these types:

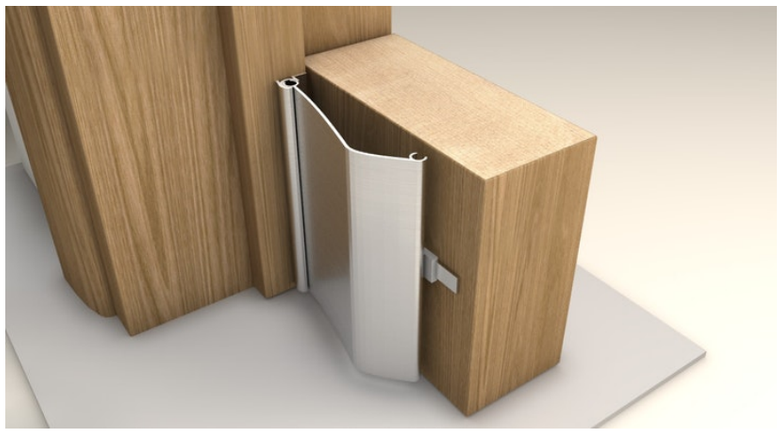


Gap cover - Roller blind

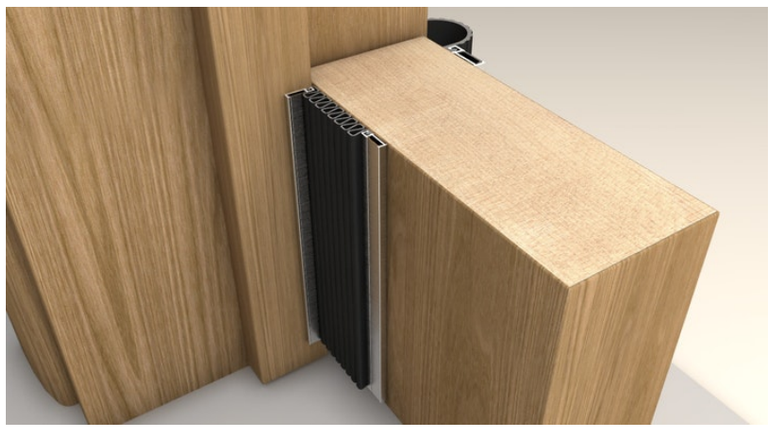


Hinge knuckle protection

Integrated door and finger protection device



Gap cover - Rigid Shield



Gap and knuckle protection

Integrated door and finger protection system

THE STANDARD BS 8613: 2017 FINGER PROTECTION DEVICES FOR PEDESTRIAN DOORS. SPECIFICATION. SAFETY REQUIREMENTS AND TEST METHODS

SCOPE

BS 8613:2017 specifies requirements and test methods for durability, strength and effective function of finger protection devices fitted at the hanging stile of pedestrian doors with the main purpose of preventing inadvertent injury. Such finger protection devices might be incorporated into the doorset, or applied to the door and/or frame.
This British Standard is applicable to finger protection devices fitted to side hung and pivoted doors with single or double swing.
It is not applicable to devices fitted to sliding and revolving doors. This British Standard does not specify requirements for products intended to be fitted by the consumer for use in dwellings. Such products are covered by BS EN 16654 Child protective products. Consumer fitted finger protection devices for doors. Safety requirements and test methods

The standard differentiates between a type A device which is a finger protection device fitted to the door and/or frame to shield the gap between the door and frame and a type B device which is a finger protection device that is an integral part of or attached to the door and/or frame to reduce the gap between door and frame, noting that type B devices might include the door hanging system.

CLASSIFICATION

Almost all European and British architectural hardware standards follow a common format to help
ease their understanding by users. Each product is classified under a number of performance headings and, generally, these are the same for all products. Finger protection devices shall be classified as follows and tested as follows:

Class 1: Products which cover the gap.

Class 2: Products which prevent access to the gap when force is used, or eliminate the gap

There are a number of requirements the product should be tested against.
Class 1 should be tested against all the following requirements except for (D)
Class 2 devices should be tested against all of the following requirements

REQUIREMENTS

A. General requirements
The manufacturer shall indicate the type(s) of doors, including the thickness and the materials (e.g. aluminium, PVC, wood), for which the device is suitable. Where the device is not integral to the doorset (Type A), the manufacturer shall provide fixings with the device to attach it to the door leaf and/or the door frame (e.g. adhesive tape, screws) which are suitable for the intended material(s) described in the accompanying information.
B. Mechanical function and structural integrity - When tested in accordance with 7.4.1, the device shall not break, have any visible cracks or permanent deformation, or disengage. The device shall be fully functional after the test.
C. General requirements for effectiveness - The device shall be operational over the full length of that part which is intended to provide its protective function. That part of the device which is intended to provide its protective function shall extend to within 15 mm of the bottom of the device

D. Prevention of finger entrapment requirement for effectiveness - When tested the finger probe shall not be entrapped between the door leaf and door frame device and leaf, device and frame or within the device itself. When the finger probe is removed, the normal operation of the door shall not be impaired, and the device shall not be broken, or have any visible cracks or permanent deformation, or disengage.
E. Deformation of the device - When tested, when the finger probe is removed the normal operation of the door shall not be impaired.
F. Small parts - If any part becomes detached during testing it shall not fit wholly in the small parts cylinder described in 7.2.4 when tested in accordance with 7.4.2.3.
G. Sharp edges - Edges and protruding parts accessible during use shall be rounded or chamfered and free of burr and sharp edges.

MARKING

Devices shall be marked clearly and legibly with the following information:
a) the manufacturer's name, trademark or other means of identification;

b) the product model identification;

c) the number of this standard (i.e. BS 8613:2017) 1);

d) the classification according to Clause 4; and

e) the week and year of manufacture (can be coded).

Where applicable, packaging in which the device is supplied shall clearly denote on the outside label all of the above

ANNEXES

Annex A (informative) contains information on additional attributes

Annex B (normative) Contains information to be supplied by the manufacturer

TESTING

Section 7 denotes testing criteria, conditions and procedures including the following:

1. Test conditions and temperature
2. Test equipment including test door and frame, finger probe and small [parts cylinder.
3. Test schedule
4. Procedures for durability test
5. Procedures for effectiveness test
6. Test report contents

CAUTION

The GAI would like to caution specifiers that no item of ironmongery including a finger protection device should inhibit a fire door from closing fully in to its frame. Fire doors when properly specified, installed and maintained save lives!

CODE OF PRACTICE: HARDWARE FOR FIRE AND ESCAPE DOORS

Further information on the correct selection of items of ironmongery for use on all fire resisting and escape route doors can be found in the “Code of Practice: Hardware for fire and escape doors” this is available on the GAI website www.gai.org.uk or www.firecode.org.uk.

ABOUT THE GAI

The Guild of Architectural Ironmongers (GAI) is the only trade body in the UK that represents the interests of the whole architectural ironmongery industry - architectural ironmongers, wholesalers and manufacturers. Its reputation is built on three key areas: education, technical support and community. Its qualifications, education and CPD programmes are widely respected in the UK and overseas, including the GCC and Hong Kong. Its technical information service is the only specialist service of its kind, providing GAI members with comprehensive advice on issues relating to the legislation, regulations and standards governing the use of architectural ironmongery and related hardware

CONTACT DETAILS

This “Guide to Standard” comes courtesy of the GAI Technical Information Service and has been written by the GAI Technical Manager, Douglas Masterson who can be contacted for further clarification on 00 44 7469 141657.
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BIBLIOGRAPHY

BS 8613: 2017
BS EN 16654: 2015
BS EN 16005: 2012
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SPONSORS

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