

# Door Chains and Limiters

## DHF TS 003:2012

Technical specification produced by **dhf**

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# Foreword

The need for a specification for door chains, limiters, etc. arose because such products were increasingly being referred to in other standards, codes of practice, and such, but there was no official guidance to indicate what level of performance they should achieve.

The first version addressed this need but was far too complicated with up to 5 grades in each category, whereas all that specifiers wanted it seems, were simple pass/fail criteria. This latest version does not have any grades, nor does it have requirements for suitability for use on fire/smoke doors, or corrosion resistance. As a result, it is easier to understand and the cost of testing is considerably reduced.

# 1. Scope

This standard specifies requirements and test methods for all forms of door opening restrictor designed to be used on doors in buildings. Such products are intended to be applied, when required, to keep callers at bay whilst still permitting sufficient door opening to assist identification and allow conversation. Lockable types are included, providing that egress is always possible. The type of door opening restrictor (usually known as a limiting stay) designed to prevent the door from opening too far, thereby causing damage to door, frame, hinges, etc is not included, nor is the type of safety restrictor/stay referred to in BS 8213-1:2004.

Whilst not restricted to timber doors (as in the previous version), all testing is carried out on timber as this is considered to represent the worst case condition for the product. For products intended for use on doors made from other materials, the onus is on the manufacturer to ensure that suitable fixing screws and clear fitting instructions are provided.

In all cases, it is assumed that no tools are used to gain access and that any unwelcome caller will only be able to use hand/arm strength and/or body weight to attempt to force an entry.

# 2. Normative references

Listed below are the normative references that apply to this standard. The publication dates are those which were applicable at the time this standard was written. Unless otherwise stated, subsequent amendments/revisions, when dated and published, will apply to this standard in place of the dated version shown below.

BS 8213-1:2004	Windows, doors and rooflights. Design for safety in use and during cleaning of windows, including door height windows and roof windows. Code of practice
PAS 24:2012	Enhanced security performance requirements for doorsets and windows in the UK. External doorsets and windows intended to offer a level of security suitable for dwellings and other buildings exposed to comparable risk

# 3. Definitions

For the purpose of this standard, the following definitions shall apply: -

## 3.1 Door chain

A device containing inter-connected metallic hoops for the detachable connection of door to frame for the purpose of selectively restricting the amount a door can open, to reduce risk of attack when receiving callers

## 3.2 Door limiter - this may take one of two forms: -

### 3.2.1 Door limiter (also known as a "door check")

A device containing a rigid arm for the detachable connection of door to frame for the purpose of selectively restricting the amount the door can open, to reduce risk of attack when receiving callers

### 3.2.2 Door limiting stay (excluded from the scope of this standard)

A device containing a rigid arm, or arms, linking door to frame for the purpose of restricting the amount a door can open to prevent damage to the door, its hinges, frame or surrounding structures

## 3.3 Door opening restrictor

A generic term for any device intended to restrict the amount a door can open

**NOTE:** In addition to the familiar type of door chain and door limiter defined above, this also includes any other kind of device that performs the same function e.g. metallic retractable cable types, etc.

## 4. Requirements

### 4.1 Door opening impacts (abuse mode)

Tested in accordance with 5.1, the product and its fixings shall resist 200 door opening impacts when subjected to an opening force of 100 N

### 4.2 Door opening impacts (attack mode) and resulting door gap

Tested in accordance with 5.2, the product and its fixings shall be subjected to 3 impacts, after which the door opening (as defined in 5.2) shall not exceed:

- a) 25 mm at the point of disengagement
- b) 76 mm in the "on guard" position

## 5. Test methods

### 5.1 Door opening impacts (abuse mode)

The product shall be mounted onto a representative door and frame in accordance with the manufacturer's instructions. The door and frame shall be of typical hardwood, such as is commonly used in the construction of doors in buildings (e.g. Lauan) and shall have a door leaf thickness of 45 mm (+/- 1 mm). The door/frame assembly shall be mounted with the pivoting axis of the door leaf vertical, in a rig in which the opening force can be applied horizontally in the door opening direction using a suspended mass arrangement. The point of application of the force on the opening leaf shall be as close as possible to product under test. With the door chain/limiter engaged, the door shall be subjected to the required number of impact test cycles. A test cycle shall consist of the following: -

- Allow door to open freely under the influence of the mass until movement is arrested by the chain/limiter
- Return door to fully closed position

### 5.2 Door opening impacts (attack mode) and resulting door gap

The product shall be tested in accordance with PAS 24:2012, B.4.8, using the test apparatus detailed in B.3.4, except that the impacts shall only be directed to the product under test. After this test, and with all slack taken up in the door opening direction, the maximum horizontal distance from the door closing edge to the nearest point on the door frame shall be measured for both the conditions described in 4.2

## 6. Marking

The following information shall be quoted on the labelling, packaging or literature: -

- manufacturer's name or trademark, or other means of positive identification
- clear product identification
- number and date of this standard



ANNEX A (normative)

Two test samples, (marked A and B) shall be subjected to the following sequence of tests:

	Samples A and B
1st Test	Door opening impacts (abuse mode) Clauses 4.1 and 5.1
2nd Test	Door opening impacts (attack mode) and resulting door gap, both at point of disengagement and in the “on guard” position Clauses 4.2 and 5.2

Table A.1







## Contact us for more information

Email: [info@dhfonline.org.uk](mailto:info@dhfonline.org.uk)

Telephone: (0)1827 52337

Address: **dhf** 42 Heath Street, Tamworth, Staffordshire B79 7JH

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