

Mechanical Performance

DD171 & BS EN 1192 Mechanical Testing:

When considering doorsets for public buildings there is a tendency to concentrate on particular performances e.g. fire performance, acoustic properties etc. This can lead to an oversight of the basic function of a doorset which is to provide a means for 'traffic' to pass from one side of a wall to the other.

To perform satisfactorily and to provide for other performances, the doorset must work reliably over a long period of time and often under conditions where the doorsets are subjected to abuse. If the door does not operate properly then all of the other performances that might otherwise be attributed to the particular location are likely to be undermined.

British Standard Draft for Development DD171 : 1987 provides a means for the mechanical testing of doorsets with the complete doorset being subjected to various levels of abuse to allow for the evaluation of mechanical performances.

More recently, European tests have been adopted that replace some of the mechanical tests described by reference to DD171. Where this has occurred, the EN tests are used but the DD171 tests have been retained in the United Kingdom where these have not been substituted by the European standards.

The following guidance is given to explain the grading system used by reference to DD171 for determining mechanical performances:

LD = Light Duty : Low frequency use by those with a high incentive to exercise care. e.g. by private house owners - small risk of accident occurring or abusive use.

MD = Medium Duty : medium frequency use primarily by those with some incentive to exercise care - some chance of accident occurring or mild abuse.

Comparisons of DD171 & BS EN 1192 Mechanical Tests.

		DD171				European Standards				
		Classification				Classification Document				
TEST	Test Ref.	LD	MD	HD	SD	TEST				
<i>Slam shut test</i>	4.3	10 times	20 times	100 times	150 times	<i>No test</i>	n/a	n/a	n/a	n/a
<i>Slam open test</i>	4.4	5J	25J	50J	50J	<i>No test</i>	n/a	n/a	n/a	n/a
<i>Heavy body impact</i>	4.5	20J	40J	100J	150J	EN 949	30J	60J	120J	180J EN 1192
<i>Hard body impact</i>	4.6	2J	3J	5J	8J	EN 950	1.5J	3J	5J	8J EN 1192
<i>Torsion</i>	4.7	400N	400N	400N	400N	EN948	200N	250N	300N	350N EN 1192
<i>Downward deflection</i>	4.8	500N	500N	500N	500N	EN947	400N	600N	800N	1000N EN 1192
<i>Closure against obstruction</i>	4.9	200N	200N	200N	200N	<i>No test</i>	n/a	n/a	n/a	n/a
<i>Resistance to jarring</i>	4.1	50 Impacts	100 Impacts	150 Impacts	200 Impacts	<i>No test</i>	n/a	n/a	n/a	n/a
<i>Abusive force to handle</i>	4.11	750N	750N	750N	750N	<i>No test</i>	n/a	n/a	n/a	n/a



Certificate of Test: Chilt/P09071/Rev1

This certificate is awarded to:

Falcon Panel Products Ltd
 Clock House
 Station Approach
 Shepperton
 Middlesex
 TW17 8AN

This document confirms that performance testing was conducted from 13 August 2009 to 14 August 2009. Testing was conducted to the following standards:-
 • DD 171: 1987, Draft for development Guide to specifying performance requirements for hinged or pivoted doors.
 • BS EN 1192: 2000 Doors - Classification of strength requirements

Product tested	Falcon 44mm Strebord single leaf doorset
Summary of testing procedure	Result
DD171 Clauses 4.3, 4.4, 4.9, 4.10 and 4.11	Severe duty
EN947, EN948, EN949 and EN950 (classified to BS EN 1192)	Severe duty (Class 4)

The results relate only to the specimens tested, as detailed in the technical specification Chilt/P09071/tec1

Paul Andrews -
 Head of Section - Mechanical Testing
 Date: 9 June 2010

Vincent Kienhan -
 Technical Manager
 Date: 09-06-2010

Chiltern Dynamics

Chiltern House, Stocking Lane, Hughenden Valley, High Wycombe, HP14 4ND, United Kingdom
 Tel: 01494 569800 Fax: 01494 564895

Web: www.chilternfire.co.uk
 Email: cf@chilternfire.co.uk

Page 1 of 3



1762

This document is confidential and remains the property of Chiltern International Fire Ltd

HD = Heavy Duty : High frequency use by public and others with little incentive to exercise care. Risk of accident with probability of some abuse. e.g. offices, particularly offices open to the public.

SD = Severe Duty : High frequency use with risk of accidental damage and possibility of violent abusive usage. e.g. Hospitals, Educational Establishments.

NOTE: It is important to appreciate that DD171 and the related EN testing applies to the doorset as a whole i.e. including hardware.