
International Standard



8271

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Door leaves — Hard body impact test

Vantaux de portes — Essai de choc de corps dur

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Descriptors : doors, tests, impact tests.

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8271 was prepared by Technical Committee ISO/TC 162, *Doors and windows*.

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Door leaves — Hard body impact test

1 Scope and field of application

This International Standard specifies a hard body (steel ball) impact test for door leaves.

It applies to all door leaves which are nominally flat and rigid.

2 Reference

ISO 1804, *Doors — Terminology*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 1804 apply.

4 Principle

Striking the faces of the door leaf (excluding glazed parts) in predetermined positions with a steel ball having a given energy at impact.

5 Apparatus

5.1 Supports

The door leaf shall be mounted horizontally in a stable manner on suitable rigid supports at the longer edges.

5.2 Steel ball

This shall be a solid steel ball and shall have a mass of 500 ± 5 g and a diameter of about 50 mm.

6 Procedure

6.1 Prior to being tested door leaves shall be stored in conditions (relative humidity between 40 and 75 %) that do not have any detrimental effects.

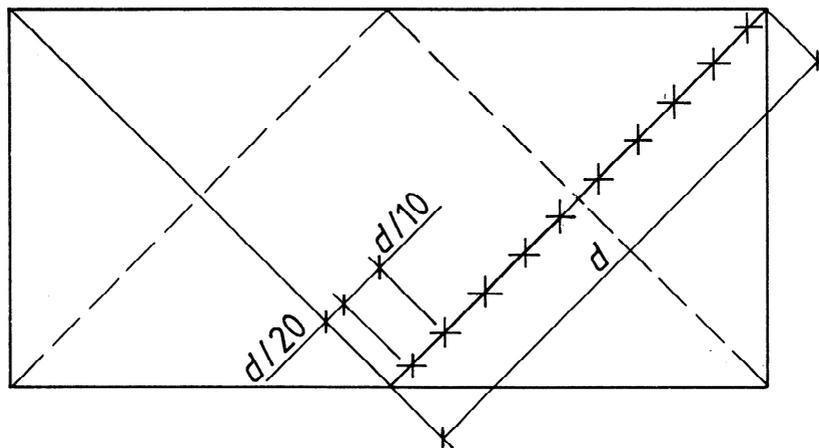
6.2 Draw on the two faces of the door leaf, but in opposite directions, four diagonals of the half faces (see the figure). Determine 40 impact points by dividing the length d of each diagonal into 11 parts, each pitched at $d/10$ except at the ends where they shall be pitched at $d/20$.

6.3 Drop the steel ball from the required height¹⁾.

When the impact leaves a permanent imprint, measure, 15 min after the impact, the maximum diameter, to the nearest 0,5 mm, and the maximum depth, to the nearest 0,1 mm, of the imprint.

The imprint may be recorded permanently, for example by placing a piece of carbon paper over the impact point.

In all cases, note any damage.



Figure

1) The choice of drop height(s) depends on the criteria adopted for judging damage and the requirements for a given category of door.