

TECHNICAL REPORT

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Doorsets — Assessment of burglar-proofness

Blocs-portes — Évaluation de la résistance à l'effraction

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The main task of ISO technical committees is to prepare International Standards. In exceptional circumstances a technical committee may propose the publication of a technical report of one of the following types:

- type 1, when the necessary support within the technical committee cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development requiring wider exposure;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical reports are accepted for publication directly by ISO Council. Technical reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical reports type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 10476, which is a technical report of type 2, was prepared by Technical Committee ISO/TC 162, *Doors and windows*.

Annex A of this Technical Report is given for information only.

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Introduction

Experience has proved that it is difficult to standardize specifications and tests which are always reproducible covering the degree of burglar-proofness of a doorset: the group of experts which has studied this problem therefore considered that a Technical Report should be established in order to provide the current state of information.

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Doorsets — Assessment of burglar-proofness

1 Scope

This Technical Report indicates principles which may be used in establishing the strength of a doorset against burglar attack.

It applies to complete doorsets with one or two leaves as supplied on site ready for installation in dwellings comprising

- leaf (or leaves);
- the door frame;
- the frame with its connection to the wall;
- the hardware (closing mechanism, pivoting mechanism, etc.).

However, a very skilful and well equipped burglar who has time and who is not afraid of noise will succeed in opening any door.

It is possible to describe types of doorsets with different levels of performance in accordance with the risks, for which the following principles are recommended:

- a) to develop mechanical test methods to check the burglar-proofness of a doorset in accordance with the risks;
- b) to use human intervention with tools when it is not possible to simulate attacks with reproducible mechanical methods;
- c) substitute tests in b) by mechanical tests.

2 Normative references

The following standards contain(s) provisions which, through reference in this text, constitute provisions of this Technical Report. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Technical Report are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 8269 : 1985, *Doorsets — Static loading test.*

ISO 8270 : 1985, *Doorsets — Soft heavy body impact test.*

3 Basic principles

A doorset which resists burglary should not have weak points which would allow the burglar to enter the dwelling easily: this principle only applies where precautions have been taken against any possibility of such entrance.

4 Process for determination of burglar-proofness

See table 1. Experience has shown that it is very difficult to fix specification levels taking account only of the results obtained after testing.

Thus according to the type of door, a deviation of 2 cm, obtained by pressing on a corner, may allow the door to be opened easily with a tool, when for another type with a very different design, a deviation of 20 cm allows break-in only after very extreme efforts.

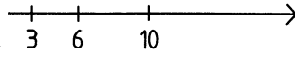
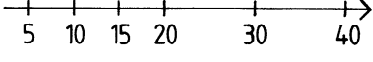
It is therefore difficult to establish the burglar-proofness of a door without submitting it to all tests (with and without human intervention) in table 1.

5 Technical appreciation of laboratory

The technical appreciation is carried out on a doorset for which a proper technical description and rules of assembly are given.

It is necessary for the different parts such as hardware to be of assured quality. Any doorset which does not correspond exactly with the description cannot receive a test report.

Table 1

Means used for burglary ¹⁾	Means of testing		Expression of results	Level of performance: example of expression
1 Means without tools push, shoulder blow, kick. 2 Means with tools a) Tools crow bar, lever/iron bar, set of blocks and wedges, hammer, screwdrivers, brace, drill, saw, set of chisels, pliers, hatchet b) Other tools or operating procedure	Static tests in ISO 8269 Dynamic tests in ISO 8270 Preferred: Mechanical tests 3)	Non-preferred: Tests with human intervention ²⁾ No standardization because no reproducibility ³⁾	Expression of: — time — stress — equipment taking place of tools or description of this if the substitution is not possible	Criteria: a) Force, in kilonewtons  b) Time, in minutes  c) Description of equipment (name and number of tools and principal characteristics)

1) Because of the evolution of the burglar's technique, it is important to list the means used to adapt the means of qualification. It is to be hoped that a permanent commission may meet regularly (for example every two years) to examine the statistical reports of burglary in order that new products may be designed to meet requirements.

2) Human intervention including spirit, artfulness, strength and tools are so varied and results so different that such tests define only general principles.

3) Test methods should simulate the intervention of one (or two) man/men with one (or several) tool(s) combining (or otherwise) static and dynamic stress (see ISO 8269 and ISO 8270) and the time of this intervention.

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6 Technical documentation

Each product to be tested shall be accompanied by technical documentation including:

- a) A description which shall be as precise as possible, containing in particular:
 - the trade-mark, name and address of the manufacturer;
 - the type of material;
 - identification references;¹⁾
 - characteristics of the door frame (for example, special features such as grooves, acoustic connections or means of fixing it into the supporting wall);
 - characteristics of the door leaf;
 - characteristics of hardware;

- characteristics of any reinforcing;
- characteristics of any special system;
- components or elements bearing quality indications are to be indicated with reference to the certificates in question.
- b) Dimensional plans and sketches showing the composition of the product and the assembly characteristics of its components.
- c) The assembly instructions supplied by the manufacturers of the different components and the overall installation instructions to enable the product to be installed on site.
- d) The name of the laboratory which carried out the burglar-proofness tests.
- e) The period of validity of the test report given by the laboratory, which is determined by the national requirements: this test report shall give the reference of the International Standard to which tests were made and the date of publication.

1) In order to permit identification of the doorset types that have been tested and are to be sold on the market, each doorset should bear for the duration of its useful life, adequate permanent identification marks and in particular the trade-mark, the type and the year of manufacture of the product. These should be legible when the door is open.

Annex A
(informative)

Bibliography

ISO 1804 : 1972, *Doors — Terminology.*

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