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# International Standard 8274

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## Doorsets — Determination of closing force

*Blocs-portes — Détermination de la force de fermeture*

First edition — 1985-07-15

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UDC 69.028.1 : 620.16

Ref. No. ISO 8274-1985 (E)

Descriptors : doors, door frames, tests, determination, force, closures.

## 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.

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 8274 was prepared by Technical Committee ISO/TC 162, *Doors and windows*.

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# Doorsets — Determination of closing force

## 1 Scope and field of application

This International Standard specifies a method for the determination of the horizontal force required to close a door. This force is used as a parameter for quantifying the operating performance of a door.

It applies to all doorsets, made of any material, with vertically hinged door leaves in the normal operating condition for which they are designed and installed according to the manufacturer's recommendations as in a finished building, bearing in mind the conditions of test as defined below. The test may be carried out on doorsets installed in a finished building or in a laboratory test rig.

## 2 Reference

ISO 1804, *Doors — Terminology*.

## 3 Definitions

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

## 4 Principle

Determination of the minimum horizontal force (closing force), acting on the door handle, which is necessary to bring the door leaf from a defined open position to a closed position, the door being considered to be closed when the spring bolt is engaged in the striking plate.

## 5 Apparatus

The test apparatus is shown in the figure and comprises the following.

**5.1 Adjustable test rig**, in which doorsets of various sizes can be mounted in a manner similar to their installation in practice; the rig shall be sufficiently rigid to ensure that any deformations that occur in the rig during testing will have a negligible effect on the test result.

**5.2 Set of weights**, to produce loads in increments of 1 N.

**5.3 Pulley**, (diameter of groove between 15 and 20 mm), mounted with the groove on the same horizontal plane as the door handle.

**5.4 Cord**, of maximum diameter 6 mm.

## 6 Procedure

**6.1** Fasten the cord to the door handle, lead it over the pulley and fasten the other end to a weight. The weight shall hang freely when the door is closed (see the figure).

**6.2** Open the door leaf through a distance that raises the weight 200 mm above its initial position. Release the door leaf from this position (the only force acting on the door leaf and tending to close the door is that generated by the weight).

**6.3** Carry out this cycle of opening and closing the door five times.

**6.4** Repeat the procedure using different weights until the minimum load required to close the door is determined.

## 7 Expression of results

Record the minimum load required to close the door as the closing force.

## 8 Test report

The test report shall include the following information:

- a) relevant details concerning the material, type, dimensions, shape, construction and finish of the door and of its frame, and a description of the hardware used;
- b) the minimum load required to close the door (closing force).