



**SLOVENSKI STANDARD**  
**SIST ENV 1630:2000**  
**01-maj-2000**

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C\_bUžj fUHJ]b'dc`\_bU!'Dfchj`ca bUcXdcfbcgh!'DfYg\_i gbUa YrcXUi [ cHJj`Ub'U  
cXdcfbcgh]dfch]dcg\_i gi`fc bY[ Uj`ca U

Windows, doors, shutters - Burglar resistance - Test method for the determination of resistance to manual burglary attempts

Fenster, Türen, Abschlüsse - Einbruchhemmung - Prüfverfahren für die Ermittlung der Widerstandsfähigkeit gegen manuelle Einbruchversuche

Fenêtres, portes, fermetures - Résistance à l'effraction - Méthode d'essai pour la détermination de la résistance aux tentatives manuelles d'effraction

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**Ta slovenski standard je istoveten z: ENV 1630:1999**

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**ICS:**

13.310	Varstvo pred kriminalom	Protection against crime
91.060.50	Vrata in okna	Doors and windows

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EUROPEAN PRESTANDARD  
PRÉNORME EUROPÉENNE  
EUROPÄISCHE VORNORM

ENV 1630

January 1999

ICS 13.310; 91.060.50

Descriptors: doors, windows, closures, tests, mechanical tests, determination, mechanical strength, burglar resistance, safety

English version

Windows, doors, shutters - Burglar resistance - Test method for  
the determination of resistance to manual burglary attempts

Fenêtres, portes, fermetures - Résistance à l'effraction -  
Méthode d'essai pour la détermination de la résistance aux  
tentatives manuelles d'effraction

Fenster, Türen, Abschlüsse - Einbruchhemmung -  
Prüfverfahren für die Ermittlung der Widerstandsfähigkeit  
gegen manuelle Einbruchversuche

This European Prestandard (ENV) was approved by CEN on 25 December 1997 as a prospective standard for provisional application.

The period of validity of this ENV is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the ENV can be converted into a European Standard.

CEN members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
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## 0 Foreword

This European Prestandard has been prepared by Technical Committee CEN/TC 33 "Doors, windows, shutters and building hardware", the secretariat of which is held by AFNOR.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this European Prestandard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The status of European Prestandard is proposed because some countries do not yet have experience in testing with manual burglary attempts. The ENV phase gives all countries the possibility of gaining experience in the application of this Prestandard, of comparing experiences and of harmonising the procedure. During this time it will be possible to determine whether parts of the manual attempt test methods can be replaced by test methods with a higher degree of reproducibility.

Noise is a dissuasive factor which is related to environment. Noise has to be taken into account in the definition of the different tool sets but is not taken into account during the test.

This ENV 1630 is a testing Prestandard, so its application does not depend at all on the material of the product.

This European Prestandard takes into account the burglary methods known and most commonly used at the present time. This European Prestandard includes tool sets. Depending on new knowledge or new forms of attack it may be necessary to revise the tool sets after a few years.

To define the burglar resistance of a product this European Prestandard shall be used in conjunction with ENV 1627 "Windows, doors shutters - Burglar resistance - Requirements and classification", ENV 1628 "Windows, doors, shutters - Burglar resistance - Test method for the determination of resistance under static loading" and ENV 1629 "Windows, doors, shutters - Burglar resistance - Test method for the determination of resistance under dynamic loading".

## 1 Scope

This European Prestandard specifies the test method for the determination of resistance to manual burglary attempts in order to assess the burglar resistant properties of windows, doors and shutters.

## 2 Normative references

This European Prestandard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Prestandard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ENV 1627: 1999      Windows, doors, shutters  
                          Burglar resistance  
                          Requirements and classification

ENV 1628: 1999      Windows, doors, shutters  
                          Burglar resistance  
                          Test method for the determination of resistance under static loading  
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ENV 1629: 1999      Windows, doors, shutters  
                          Burglar resistance  
                          Test method for the determination of resistance under dynamic loading

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### 3 Definitions

For the purposes of this European Prestandard, the following definitions apply:

- 3.1 attack side:** The side of the test specimen defined by the applicant as the side exposed to attack.
- 3.2 test specimen:** Complete, fully functioning window, door or shutter.
- 3.3 sub-frame:** A surrounding frame into which the test specimen is mounted by the applicant, in accordance with the manufacturer's instructions. The sub-frame is supplied by the applicant and takes the place of the various forms of wall construction (*see figures 2 to 16*).
- 3.4 test rig:** A surrounding substantial steel frame with movable steel supports into which the sub-frames containing test specimens of various dimensions can be mounted (*see figure 1*).
- 3.5 tool set:** The set of tools allocated for use for a particular resistance class (*see annex A*).
- 3.6 resistance time:** The working time of the test person carrying out the manual burglary test, including times of less than 5 s each for tool changes, e.g. exchanging a screw driver for a crow bar.
- 3.7 rest time:** The time taken when the test person carrying out the manual burglary test interrupts his work for a rest. It is not compulsory to take a rest.
- 3.8 time for tool changes:** The time for the exchange or replacement of a tool or a part thereof, e.g. a defective drill, a blunt saw blade etc.
- 3.9 observation time:** The time required for the leader of the test team to observe the test and to decide on the further execution of the test. The observation time is not included in the resistance time.
- 3.10 total test time:** The combination of the resistance times, the rest times, the times for tool changes and the observation times.
- 3.11 accessible opening:** An opening permitting a test block of cross section of any of the dimensions shown below to be passed through it.

- a rectangle of           400 mm x 250 mm       or
- an ellipse of           400 mm x 300 mm       or
- a circle of diameter               350 mm

## 4 Test installation

### 4.1 Test rig

The test rig shall consist of a surrounding strong steel frame with movable steel supports into which the sub-frames containing test specimens of various dimensions can be mounted. All connecting parts, especially corner connections, shall resist the test loads during the test. The test rig shall not impede the execution of the test (*see figure 1*).

### 4.2 Test team

The test team shall be employees of the testing laboratory. The team shall comprise:

- A test team leader: His function is to direct and control the test work during the total test time together with the subsequent production of a test report.
- A timekeeper: His function is confined to time keeping and compiling the record of the test work.
- An operator: He carries out the manual burglary test.

Two of these three persons shall be able to act as operative.

### 4.3 Test room climate

Test room temperature

from 15 °C to 30 °C

Relative humidity

from 40 % to 60 %

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### 4.4 Measurement and recording devices

#### 4.4.1 Measuring equipment

The following equipment shall be provided:

- a) chronometer for measuring the resistance time
- b) chronometer for measuring the total test time
- c) suitable measuring equipment for determining the temperature of the test specimen and moisture content of wood

#### 4.4.2 Video recording

Pre-test and main test shall be recorded with a video recorder. The videotape and any copies of it shall not be published nor shown publicly.



## 5 Test specimen

### 5.1 General

The test specimen shall be a functioning window, door or shutter complete with its frames, hardware, guide rails, curtain, tube, roller box and accessories, as appropriate.

The test specimen shall be fixed square and plumb and without twist or bend into a sub-frame by the applicant. Installation is to be done in accordance with the manufacturer's instructions, including method of fixing, packing, sealants, etc. (*see figures 2 to 16*)

The test specimen shall be a representative specimen of subsequent production. It is essential that the correlation between its size and its security-related equipment shall be taken into account accordingly.

When a wide range of sizes is available, the testing laboratory shall define which sizes are to be tested in order to obtain a representative result for the whole range.

The applicant shall provide at least two specimens for testing, one for the pre-test and one for the main test. Under particular circumstances additional specimens may be required.

The specimen used in the static test in accordance with ENV 1628 and for the dynamic test in accordance with ENV 1629 may also be used in the pre-test, provided that any damage caused by those tests will not affect the result of the pre-test.

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### 5.2 Preparation and examination of the specimen

The test specimen shall be stored in a suitable room until the temperature and the moisture content show stable values within the required limits.

Temperature from 15 °C to 30 °C

Moisture content from 5 % to 18 % (where relevant)

The test specimen, mounted in the test rig, is to be examined visually and any damage, defects or other particular conditions of finish, etc. are to be noted and recorded.

In the case of load carrying parts constructed of wood, the testing laboratory shall measure and record the following values:

Temperature  
Raw density  $\rho_0$  <sup>1)</sup>  
Moisture content

Before the test is started, the fastened or locked condition described by the applicant is to be effected and checked.

## 6 Procedure

### 6.1 Areas of attack

The following areas of attack are defined:

- attacks on the locking parts
- attacks on the moving parts
- attacks on the body of the element
- attacks on the hardware
- attacks on any other relevant areas

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### 6.2 Pre-test

Before the main test the testing laboratory shall carry out preliminary trials. The aim of these trials is to establish the weak areas by attacking the test specimen.

During these trials each attack area indicated in subclause 6.1 shall be tested during at least 25% of the resistance time of the expected category.

All the tools for the resistance class expected shall be assessed for their effectiveness during the pre-tests.

On the basis of the weak areas of the test specimen, the definitive test programme for the main test shall be determined.

### 6.3 Main test

After the pre-test in accordance with subclause 6.2 the main test shall be carried out. In the main test an attempt shall be made to force open the test specimen or to create an accessible opening, as defined in subclause 3.11, using the tool set defined, within the resistance time and total test time for the resistance class in accordance with ENV 1627.

This shall be carried out in accordance with the test programme determined as a result of the pre-test.

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<sup>1)</sup> For the determination of this value parts have to be cut out of the specimen; this value is to be determined immediately after the execution of the test and is related to the oven-dry condition.

## 6.4 Measurement of times

From the start of the main test the resistance time and the total test time shall be measured. For tool changes longer than 5 s, e. g. the replacement of defective tools, the measurement of the resistance time shall be interrupted. The total test time is defined in 3.10.

If any of the individual time measurements making up the total test time overlap, the overlapping times shall be counted only once.

## 6.5 Attack side and attack height

The applicant shall define the attack side which shall be recorded in the test report. During the test the operator shall be permitted to stand on a platform in order to work in a convenient position.

## 6.6 Additional tests

### 6.6.1 General

In addition to the test in accordance with subclause 6.2 and 6.3 special attack methods are to be simulated on the hardware parts and their fixings.

In accordance with ENV 1627: annex C, for the resistance classes 2 to 6 the following test is necessary if no tested cylinder cover is installed. 1630:2000

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### 6.6.2 Extraction of cylinders

This test shall be performed either on the complete window, door or shutter or on a representative test specimen with a size of 600 mm x 600 mm. It shall be carried out with the cylinder and its protective devices fitted complete.

The test shall be performed on at least three mounted cylinders. These may be tested one after another and may be exchanged within the window, door, shutter or representative test specimen. Self drilling screws with tapping screw thread (see annex B) shall be inserted into the key hole of the cylinder. Screws with a diameter of 4,8 mm, 5,5 mm and 6,3 mm shall be used in turn. An extraction device shall be applied to the screw with the largest diameter. For the extraction attempt the extraction device shall be supported on the door leaf and not on the hardware. A tensile load increasing gradually within  $(60 \pm 5)$  s to 15 kN is to be applied axially by means of the extraction device.

The test is passed if by the end of the test it has been impossible to open the locking mechanism with the given tools and within the resistance times of the relevant resistance classes.