SLOVENSKI STANDARD
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Building hardware, fittings for windows and door height windows - Requirements and test methods - Part 5: Devices that restrict the opening of windows

Baubeschläge, Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 5: Vorrichtungen zur Begrenzung des Öffnungswinkles von Fenstern

Quincaillerie pour le bâtiment, ferrures de fenetres et portes-fenetres - Prescription et méthodes d'essais - Partie 5: Dispositifs limitateurs d'ouverture

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This Technical Specification (CEN/TS) was approved by CEN on 18 August 2003 for provisional application.

The period of validity of this CEN/TS 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 CEN/TS can be converted into a European Standard.

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

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Foreword

This document (CEN/TS 13126-5:2004) has been prepared by Technical Committee CEN/TC 33 "Doors, windows, shutters, building hardware and curtain walling", the secretariat of which is held by AFNOR.

A full contribution to the preparation of this Technical Specification has been made by the European manufacturers organisation 'ARGE' and National Standards institutions.

This Technical Specification is one of a series of Technical Specifications dedicated to building hardware products. It is divided into seventeen parts to incorporate all types of windows and door height windows.

Informative annex A of CEN/TS 13126-1 gives detailed schedules of the elements of components of the seventeen parts of this Technical Specification.

Normative annex B of CEN/TS 13126-1 gives schedules of the elements of components used on the 21 types of window opening functions.

Normative and informative annex to all parts of this Technical Specification are indicated in the content of the seventeen parts.

Annex A is informative while annex B is normative.

The performance tests incorporated in this Technical Specification are considered to be reproducible and as such will provide a consistent and objective assessment of the performance of these products throughout CEN Member States.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This Part of CEN/TS 13126 specifies the requirements and test methods for durability, strength, security and function of devices that restrict the opening of windows.

The following types of restrictors are included:

a) Restricted opening devices with or without friction systems;

b) Hold open devices;

c) Peg type casement stays;

d) Maximum opening stops.

It shall apply to all devices that restrict the opening of hinged and pivoted windows, whether the devices are products that may be fitted to a window separately from other operating fittings or whether the restricted opening is achieved by means of features in the design of fittings such as hinges or pivots.

NOTE Safety in use could be affected by the failure of restricted opening devices that limit the initial opening of a window. Accordingly, such safety related devices are subjected to higher wind loads than hold-open devices or maximum opening stops.

The durability test is not applicable to peg type casement stays.

2 Normative references

This Technical Specification 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 Technical Specification only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

EN 1670, *Building hardware – Corrosion resistance – Requirements and test methods.*

EN 12519:2004, *Windows and doors - Terminology*

CEN/TS 13126-1:2004, *Building hardware – Fittings for windows and door height windows – Requirements and test methods – Part 1: Requirements common to all types of fittings*

3 Terms and definitions

For the purposes of this Technical Specification, the terms and definitions given in EN 12519:2004 for windows and doors and the following apply:

3.1
hold-open device (or peg type casement stay)
fitting or a part of a fitting that holds a casement or sash in an open position for ventilation, cleaning or maintenance purposes.

3.2
maximum opening stop
fitting or a part of a fitting that, for safety, limits the maximum opening of a casement or sash.

3.3
restricted opening device
fitting or a part of a fitting that, for safety, limits the initial opening of a casement or sash to a predetermined position.

4 Classification

4.1 General

The classification for devices that restrict the opening of windows shall be in accordance with the requirements of clause 4 in CEN/TS 13126-1:2004.

4.2 Category of use (first digit)

No requirement

4.3 Durability (second digit)

Grades shall be in accordance with 4.3 of CEN/TS 13126-1:2004.

4.4 Mass (third digit)

Grades shall be in accordance with 4.4 of CEN/TS 13126-1:2004.

4.5 Fire resistance (fourth digit)

Grades shall be in accordance with 4.5 of CEN/TS 13126-1:2004.

4.6 Safety in use (fifth digit)

Grades shall be in accordance with 4.6 of CEN/TS 13126-1:2004.

4.7 Corrosion resistance (sixth digit)

Grades shall be in accordance with 4.7 of CEN/TS 13126-1:2004.

4.8 Security (seventh digit)

Grades shall be in accordance with 4.8 of CEN/TS 13126-1:2004.

4.9 Application (eighth digit)

Two grades are identified:

— grade 1 : for use as restricting devices only

— grade 2 : for use as combined hold-open and restricting devices

4.10 Test Sizes – Size limitations (ninth digit)

The maximum designated window size in which the component has been tested as a single fitting shall be stated in accordance with the designated number listed in CEN/TS 13126-1:2004 annex B.

5 Requirements

5.1 General

The requirements of devices that restrict the opening of windows shall be met in accordance with 5 of CEN/TS 13126-1:2004.

Three grades of durability are identified for devices that only restrict the opening of windows

— Grade 3 : 10 000 cycles

— Grade 4 : 15 000 cycles

— Grade 5 : 25 000 cycles.

One grade is identified for devices that incorporate a hold-open function.

— Grade 3 : 10 000 cycles

5.2 Other requirements

The dimensions and design of devices that restrict the opening of windows shall conform to the following safety requirements.

When fitted to the test apparatus described in 6, in accordance with the manufacturers fixing instructions, the test forces detailed in 7.4.2 shall be applied to the test specimen.

The load shall be applied perpendicular to the plane of the test window and at a point on the test casement which is most disadvantageous to the specimen.

The restricted opening device shall not permit the movable casement of the test apparatus to be opened beyond the intended limit of the specimen. No gap greater than 100 mm shall occur between the movable casement and the fixed outer frame when the static load of 7.4.1 is applied to allow a 100 mm diameter sphere to pass.

NOTE Restricted opening devices may include design features which permit opening beyond the initial limit, after the restriction has been released. Automatic re-engagement when the movable casement is fully closed is not obligatory.

6 Test apparatus

Devices that restrict the opening of windows shall be fitted to test apparatus as specified in clause 6 of CEN/TS 13126-1:2004.

7 Test Methods

7.1 Samples

Three samples shall be used for testing to this Technical Specification.

sample A – performance tests

sample B – corrosion test

sample C – retained for reference control

If a specimen fails to meet the appropriate acceptance requirements, two further specimens shall be tested. A pass of the second test shall be accepted but failure shall be recorded accordingly.

There shall be no breakage of any component and the restrictor shall remain operable

7.2 Procedure

The specimen shall be tested for durability before it is tested for mechanical strength

7.3 Durability test

Secure the sample device to the test apparatus in accordance with detail given in annex A. Operate the restricted opening device through the complete opening and closing cycle in accordance with the following requirement

Close the moveable casement.

Open the moveable casement to the position at which the restricted opening device is engaged. Activate the restricted opening device (applicable to hold- open devices only).

— Apply a force of 55 ±5 N, without shock, for a period of at least 1 s, in the direction of opening. This force shall be applied in the same plane as the specimen and at a point on the test casement which is most disadvantageous to the specimen. It shall be applied at a point in the cycle when blocking by the restrictor becomes effective.

De-activate the hold-open device and close the moveable casement.

Repeat the cycle at a frequency of 250 cycles/h $^{+25}_{-0}$ cycles/h according to the number of cycles for the required grade:

— grade 3 : 10 000 cycles $^{+500}_{0}$ cycles

— grade 4 : 15 000 cycles $^{+750}_{0}$ cycles

— grade 5 : 25 000 cycles $^{+1000}_{0}$ cycles

NOTE The durability test is not applicable to peg type casement stays.

On completion of each 5 000 cycles all moving and locking parts will be lubricated unless the hardware is claimed to be maintenance free.