SLOVENSKI STANDARD

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Stavbno okovje, pritrjevalni sistemi za okna in zastekljena vrata – Zahteve in preskusne metode – 15. del: Valji drsnih oken

Building hardware, fittings for windows and door height windows - Requirements and test methods - Part 15: Rollers

Baubeschläge, Beschläge für Fenster und Fenstertüren - Anforderungen und Prüfverfahren - Teil 15: Rollen für Schiebefenster

Quincaillerie pour le bâtiment, ferrures de fenetres et portes-fenetres - Exigences et méthodes d'essai - Partie 15: Roulements

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

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Foreword

This document (CEN/TS 13126-15:2004) 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.

The performance tests incorporated in this standard 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.

Annex A and B are informative while annex C is normative.

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 gives requirements and test methods for durability, strength, security and function of rollers for windows and door height windows.

This standard is applicable to rollers irrespective of whether they are adjustable or not and of the method or type of fixing or if they are used independently, or in multiples or combinations

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 standard 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 – Requirements common to all types of fittings*

prEN 14608, *Windows – Determination of the resistance to racking*

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
bogey

assembly of one or more rollers in a single or multiple unit which supports a sliding window whether it moves in a straight line or rotates about an axis for sliding/folding centre/corner pivoted window and door height window.

3.2
roll

assembly of one roller which guide a sliding and folding window and door height window centre/corner pivoted.

4 Classification

4.1 General

The classification for rollers 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)

Five grades of fitting are identified :

— grade 1 : suitable for use on horizontal straight sliding windows (type N)

— grade 2 : suitable for use on lifting horizontal sliding windows (type P)

— grade 3 : suitable for use on centre pivot horizontal sliding windows (type Q)

— grade 4 : suitable for use on outward or inward corner pivot folding horizontal sliding windows (type R and/or S)

— grade 5 : suitable for use on tilting / sliding windows (type T)

4.10 Test Sizes – Size limitations (ninth digit)

The window/door height window size in which the component has been tested shall be stated in accordance with the designated number listed in Table 3 of CEN/TS 13126-1:2004.

5 Requirements

5.1 General

The requirements of rollers shall be met in accordance with clause 5 of EN 13126-1:2004

5.2 Additional test requirements

5.2.1 Durability

Before and on completion of the test the roller shall not vary by more than 5 % of the initial diameter.

The bogie shall continue to function correctly with no distortion.

5.2.2 Resistance to static load

When tested in accordance with 7.4, the diameter of the roller may not vary by more than 5 % of the initial diameter.

The bogie/roll shall continue to function correctly with no distortion.

6 Test apparatus

The rollers shall be mounted in a test apparatus as specified in CEN/TS 13126-1:2004 for the purpose for which they are intended in accordance with the manufacturer's instructions

7 Test methods

7.1 Samples

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

sample A 1 – durability test

sample A 2 – static test

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 part

7.2 Procedure

Install the bogie in the same manner in which it would be fitted in a horizontal sliding window according to the manufacturer's fixing instructions for the type of window selected.

Cycling in test 7.3 shall be at the rate of 250 cycles/h $^{+25}_{0}$ cycles/h, for the number of cycles according to the grade selected.

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

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

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

7.2.1 Measurement of rollers

Measure the diameter of the diameter of the rollers at three points, equidistant around the circumference, marking the locations and record the mean.

7.3 Durability test

Using sample A, the rollers, mounted in a bogie, shall be mounted on the test rig in accordance with the manufacturer's fixing instructions.

Inspect the rollers for surface imperfections. Measure the diameter of the rollers, determine the mean and record

The bogie shall move a distance of 800 mm ± 10 mm. One cycle shall consist of one forward and one return movement.

The mass used for this test shall be the maximum specified by the manufacturer for each roller multiplied by the number of rollers. This value shall be applied with a tolerance of $^{+1}_{0}$ % of the test mass

On completion of the required number of cycles, measure the diameter of the rollers at the marked locations, determine the mean and record

Inspect and record any distortion. Check that the rollers continue to function correctly

7.3.1 Durability test of grade 1, 2 and 5 (Application) rollers used in straight sliding windows (types N, P and T)

For windows which slide horizontally in the same plane, the bogie shall be cycled in a straight line throughout the test. See Figures A.1 and A.2.

7.3.2 Durability test of grade 3 and 4 (Application) rollers used in windows that fold (types Q, R and S)

The test apparatus for rollers suitable for windows that fold during their horizontal movement shall replicate the required movement. On completion of the 800 mm forward travel distance the window shall have rotated through 90° ± 5°. The window shall return to the "in line" position on completion of the test cycle. See Figures B.1, B.2, B.3, B.4, B.5, B.6 and B.7.