



SLOVENSKI STANDARD
oSIST prEN 14019:2014
01-september-2014

Obešene fasade - Odpornost proti udarcu - Zahtevane lastnosti

Curtain Walling - Impact resistance - Performance requirements

Vorhangfassaden - Stoßfestigkeit - Leistungsanforderungen

Façades rideaux - Résistance au choc - Prescriptions de performance

Ta slovenski standard je istoveten z: prEN 14019

<https://standards.iteh.ai/catalog/standards/sist/d07d531b-4c77-4d03-80b0-14cfce2366e5/sist-en-14019-2016>

ICS:

91.060.10	Stene. Predelne stene. Fasade	Walls. Partitions. Facades
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oSIST prEN 14019:2014

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 14019

June 2014

ICS 91.060.10

Will supersede EN 14019:2004

English Version

Curtain Walling - Impact resistance - Performance requirements

Façades rideaux - Résistance au choc - Prescriptions de performance

Vorhangfassaden - Stoßfestigkeit - Leistungsanforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 33.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Contents

	page
Foreword.....	3
1 Scope	4
2 Normative References	4
3 Terms and definitions.....	4
4 Requirements	4
5 Impact load positions	5
6 Test Method	5
7 Classification.....	6
Annex A (informative) Examples of test assembly and drop height.....	8
Annex B (informative) Correlation between impact classes (drop height and impact energy) and exposure categories.....	10
Bibliography.....	11

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Foreword

This document (prEN 14019:2014) 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.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 14019:2004.

The revision of this European Standard clarifies requirements, impact positions and the test method, but it does not affect existing test evidence of EN 14019. Two informative annexes have been added.

This European Standard is part of a series of European Standards dedicated to curtain walling products.

This European Standard forms part of a series of curtain walling tests as defined in the product standard EN 13830.

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prEN 14019:2014 (E)

1 Scope

This standard defines performance requirements of curtain walling (excluding 'glass in building' which is classified under EN 12600) under soft body impact load.

Its criteria are targeted to safety in use and integrity of curtain walling in the event of sudden impact forces on the curtain wall surfaces. Compliance with the performance requirement is determined by the laboratory test.

It applies to those areas of curtain walling which face onto areas of human activity, either internally or externally and takes account of accidental impacts brought on by people going about their normal daily activities and impacts brought about by equipment and similar devices for maintenance, cleaning, repair and similar occasional activities.

It does not set out to define performance requirements of impact under exceptional circumstances such as acts of vandalism, vehicular collision, firearm projectiles, etc..

This standard will have no bearing whatsoever on any National Building / Health and Safety regulations which may exist and whose requirements shall apply separately and in parallel with these test performance requirements.

2 Normative References

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

prEN 13119:2014, *Curtain walling - Terminology*.

EN 12600, *Glass in building - Pendulum test - Impact test method and classification for flat glass*.

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in prEN 13119:2014 and the following apply.

3.1 component dislodgement

breaking away of any curtain wall component from the main construction, to the extent that the whole or part component falls off.

4 Requirements

- 4.1 The curtain wall shall safely absorb the impact loads and shall retain its function in fulfilling the following criteria:
 - 4.1.1 the mass of any dislodged part shall not exceed 50 g, not to be dangerous.
 - 4.1.2 no parts shall fall down in a dangerous manner;
 - 4.1.3 no holing shall occur in a dangerous manner;
 - 4.1.4 no breakage shall occur in a dangerous manner;
 - 4.1.5 the test specimen shall not detach or dislodge in a dangerous manner;
 - 4.1.6 any infill panel shall remain in its position and come off only when removed;

- 4.2 Glass products used as or incorporated in infill components shall be assessed in accordance with EN 12600.
- 4.3 All of the above are to apply under impact loads normal to the plane of the curtain wall.

5 Impact load positions

For impact loads positions see Figure 1.

1. Centre mullion height between fixings (external only).
2. Centre width (external, internal at sill height).
3. End of transom, 150 mm from junction with mullion (external, internal).
4. Centre of spandrel unit (external, internal).

6 Test Method

The test specimen should be a section of curtain wall a minimum one storey height and of sufficient size to permit testing at all the specified test positions. Three test locations are required for each test position. At each test location testing may be carried out starting with a low impact energy and increasing the drop height until the maximum impact energy is obtained. Separate test locations should be used for internal and external tests. The test specimen should be supported on a rigid structure using the same method of fixing as proposed for site installation. A sample used for weathertightness testing will normally be suitable.

The test specimen shall be vertical, level, square and without visible twist resulting from the use of fixing devices.

Storage and testing shall be carried out in a non-destructive environment within the ranges of 5 °C to 30 °C and 25 % to 75 % relative humidity.

The impactor as specified in EN 12600 shall be mounted on a horizontal or vertical axis, as best befits the requirements of access to the impact point. In addition wires, pulleys, hooks and suitable height adjusting devices are needed, as specified in EN 12600.

With the impactor hanging in its free state, adjacent to the impact point, attach the release hook to it. Raise the impactor, by means of the height adjusting device until the drop height is correctly set, as judged from a reference point on the impactor. At the drop height the suspension cable shall be taut, and the axis of the impactor and cable shall be in line.

Disengage the release hook allowing the impactor to swing freely until it strikes the test specimen perpendicular to the infill. The weights shall not make contact with the test piece during the impact.

Testing shall start at the lowest drop height (see Tables 1 and 2) and increase up to the drop height required by the client.

The drop height shall be set to an accuracy of ± 10 mm.

Inspect the test piece after each impact and note whether it complies with the requirements given in clause 4.

If failure of an infill panel occurs, the test may be repeated with a replacement infill panel.

7 Classification

The drop heights to be applied shall be selected from the performance levels given in Tables 1 and 2.

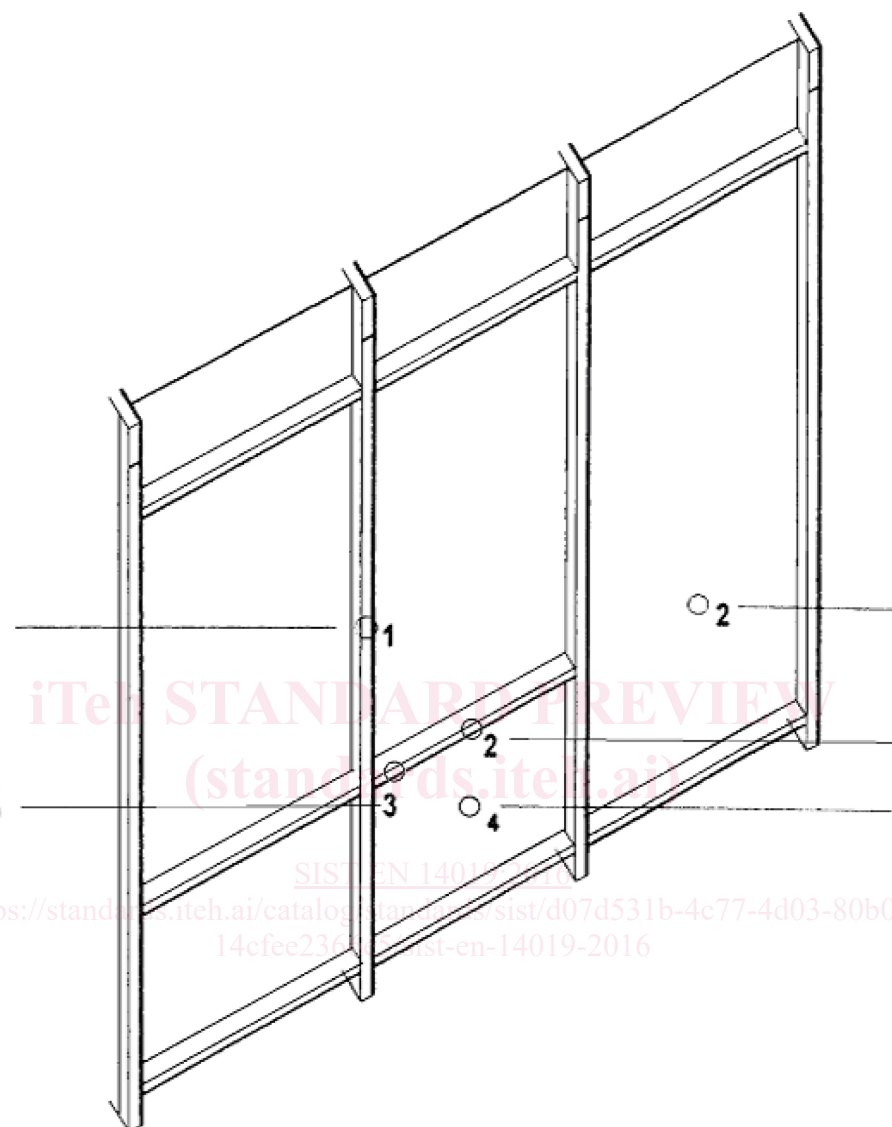
Table 1 - Internal impact classification

Test Class	Drop height (mm)
I0	Not applicable
I1	200
I2	300
I3	450
I4	700
I5	950

Table 2 - External impact classification

Test Class	Associated drop height (mm)
E0	Not applicable
E1	200
E2	300
E3	450
E4	700
E5	950

For Class 0 there is no requirement for specific resistance to impact loads and the drop height/load aspect criterion is not applicable.



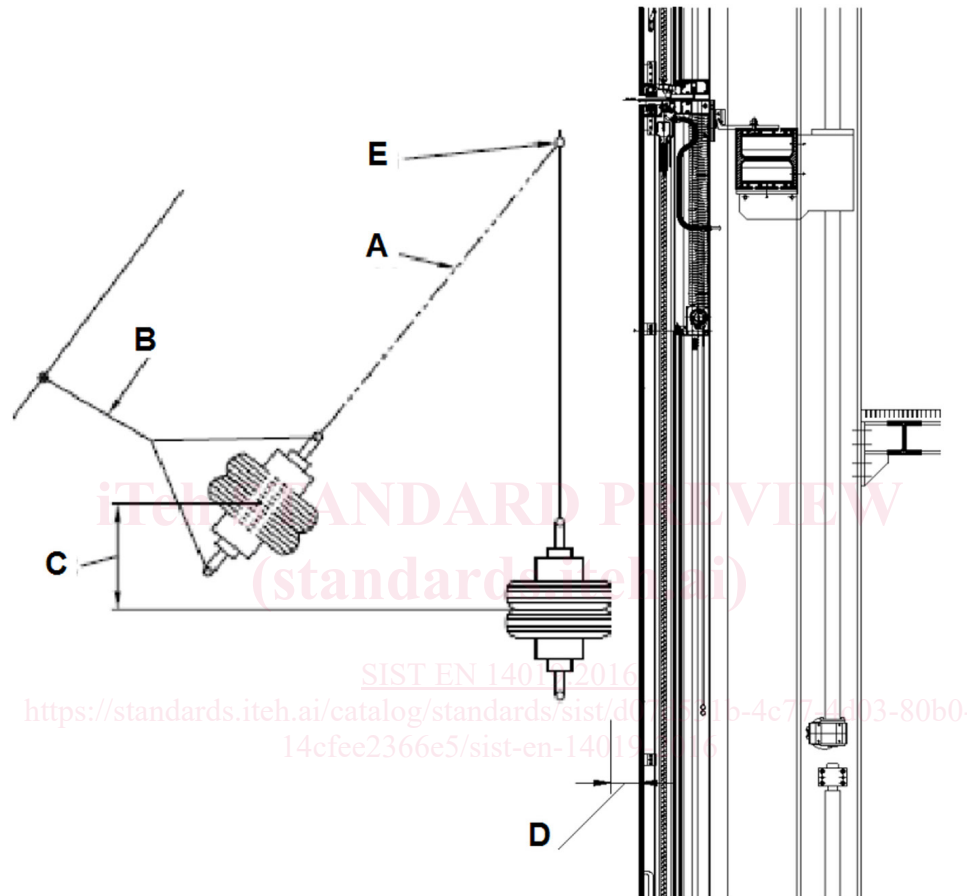
Key

1. Centre mullion height between fixings (external only)
2. Centre width (external, internal at sill height)
3. End of transom, 150 mm from junction with mullion (external, internal).
4. Centre of spandrel unit (external, internal).

Figure 1 - Illustration of impact load positions.

Annex A (informative)

Examples of test assembly and drop height



Key:

- A. Suspension cable
- B. Traction cable
- C. Drop height
- D. Impactor distance from sample
- E. Suspension bracket

Figure A1: the sketch shows the test assembly and drop height ("C").