SLOVENSKI STANDARD
SIST EN 16758:2016

01-september-2016

Obešene fasade - Ugotavljanje trdnosti strižnih spojev - Preskusna metoda in zahteve

Curtain walling - Determination of the strength of sheared connections - Test method and requirements

Vorhang-Fassade - Festlegung der beanspruchbarkeit von auf Abscheren beanspruchten Verbindungen - Testmetode und Anforderungen

Façades rideaux - Détermination de la résistance des assemblages - Méthode d'essai et exigences

Ta slovenski standard je istoveten z: **EN 16758:2016**

ICS:

91.060.10	Stene. Predelne stene. Fasade	Walls. Partitions. Facades

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EUROPEAN STANDARD

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English Version

Curtain walling - Determination of the strength of sheared connections - Test method and requirements

Façades rideaux - Détermination de la résistance des assemblages - Méthode d'essai et exigences

Vorhangfassaden - Festlegung der Beanspruchbarkeit von auf Abscheren beanspruchten Verbindungen - Prüfverfahren und Anforderungen

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

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European foreword

This document (EN 16758:2016) 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 European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by December 2016.

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1 Scope

This European Standard specifies test methods for the determination of bearing capacity (ultimate limit state and serviceability limit state), of connections between curtain walling framing members for which it cannot be calculated in accordance with current codes or conventional calculations based upon the strength of the materials.

Mechanical performances of the curtain walling connections are already assessed in accordance with the provisions described in EN 13830. Additional information with respect to mechanical performance of the connections and direct applications can be determined with this standard.

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.

EN 13119, *Curtain walling - Terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13119 and the following apply.

3.1
connection
set of components designed to transfer loads between framing members (e.g. cleat, screw)

4 Symbols

For the purposes of this document, the following symbols apply.

$F_{h,des}$	design horizontal load
$F_{v,des}$	design vertical load
F_{u5}	the characteristic force giving 75 % confidence that 95 % of the test results will be higher than this value
s	the standard deviation of the series under consideration
γ_u	partial factor for the connection applicable to rupture
$\tau_{\alpha\beta}$	statistical eccentricity of 5 % with 75 % confidence

5 Method of evaluation

5.1 General

Connections are subjected to permanent loads as well as to variable loads. The measurement of the deformation is recorded at the application of the force. The support shall restraint vertical and horizontal movements.

5.2 Samples

The samples shall be representative of the connection methods between the framing members of the curtain walling.

Based on the type of curtain walling (e.g. stick construction, unitized system etc) different types of connection between the framing members should be tested, depending to the design of the connection,

Figures from 1 to 3 are examples of typical test configurations, but different configurations may be used.

Figures from 4 to 7 are examples of typical test configurations incorporating actual glass supports.

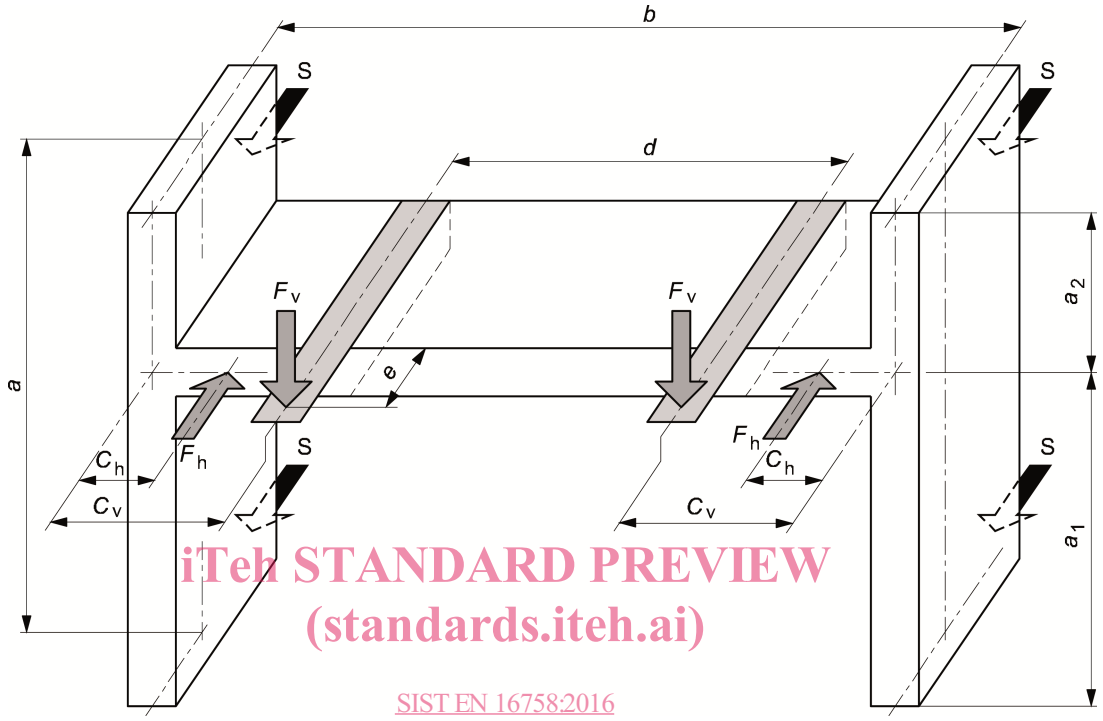

Figure 1 — Schematic T-connection and loading points (any connection method can be chosen)

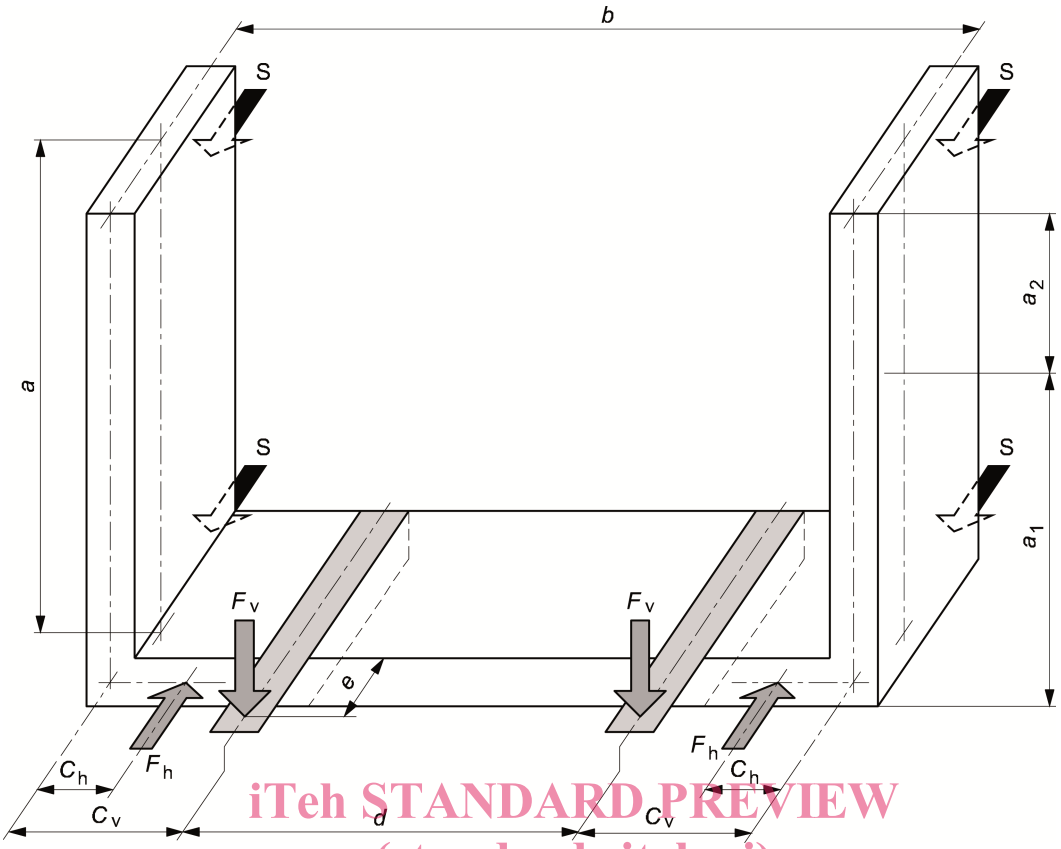

Figure 2 — Schematic L-connection and loading points (any connection method can be chosen)

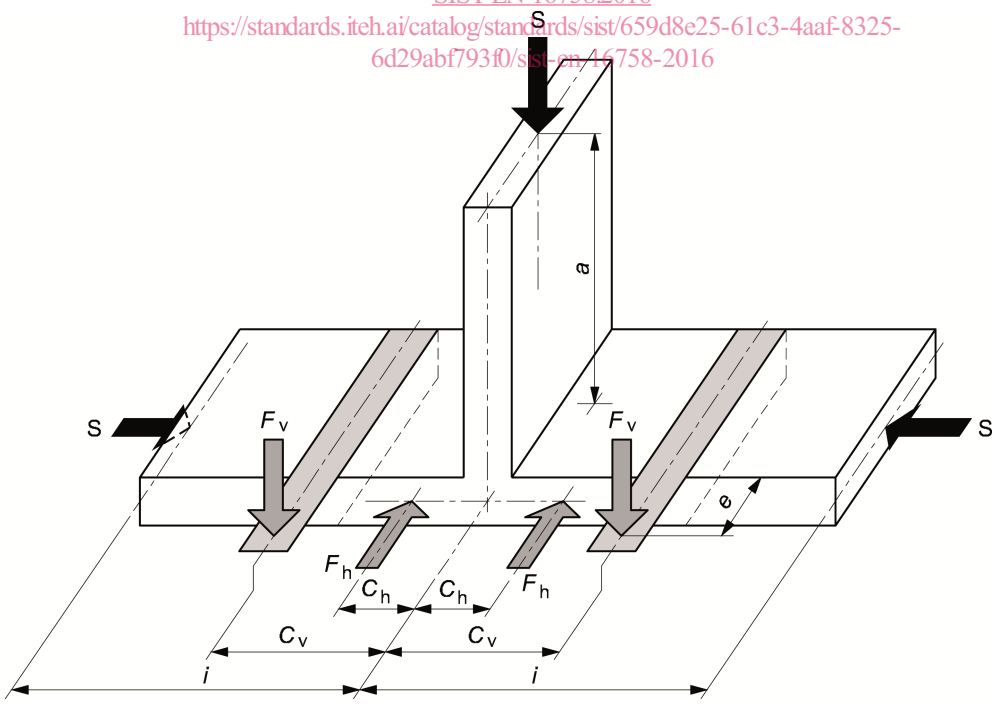

Figure 3 — Axial resistance (any connection method can be chosen)

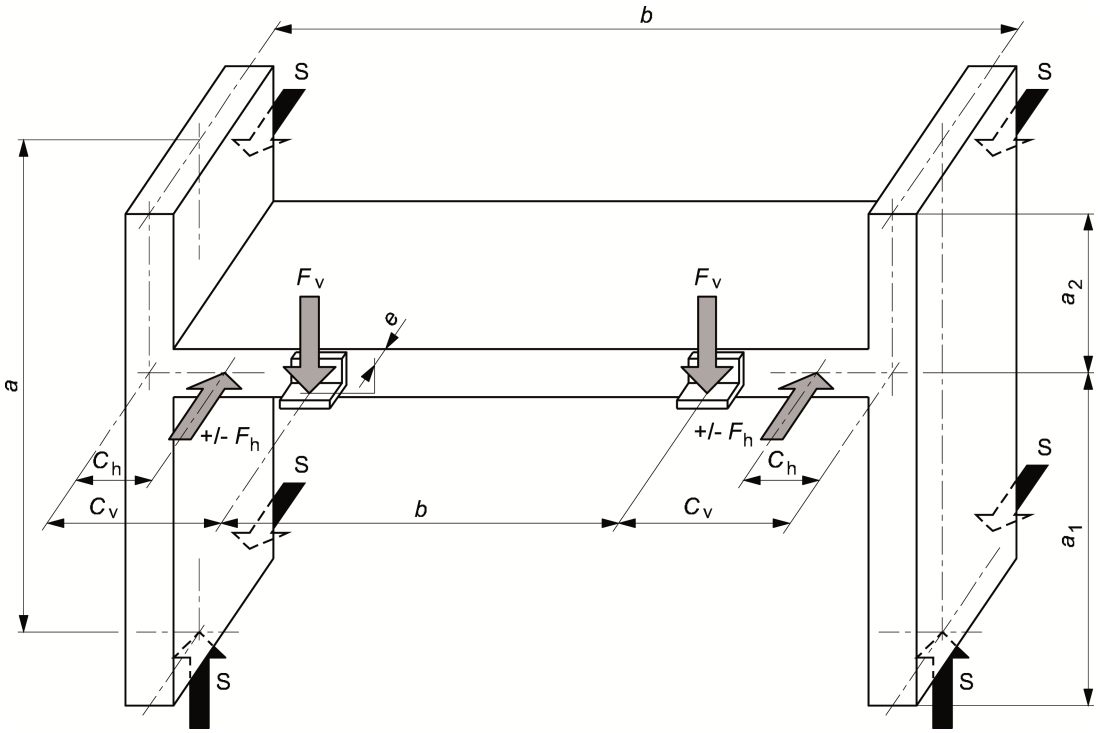

Figure 4 — Schematic T- connection and loading points

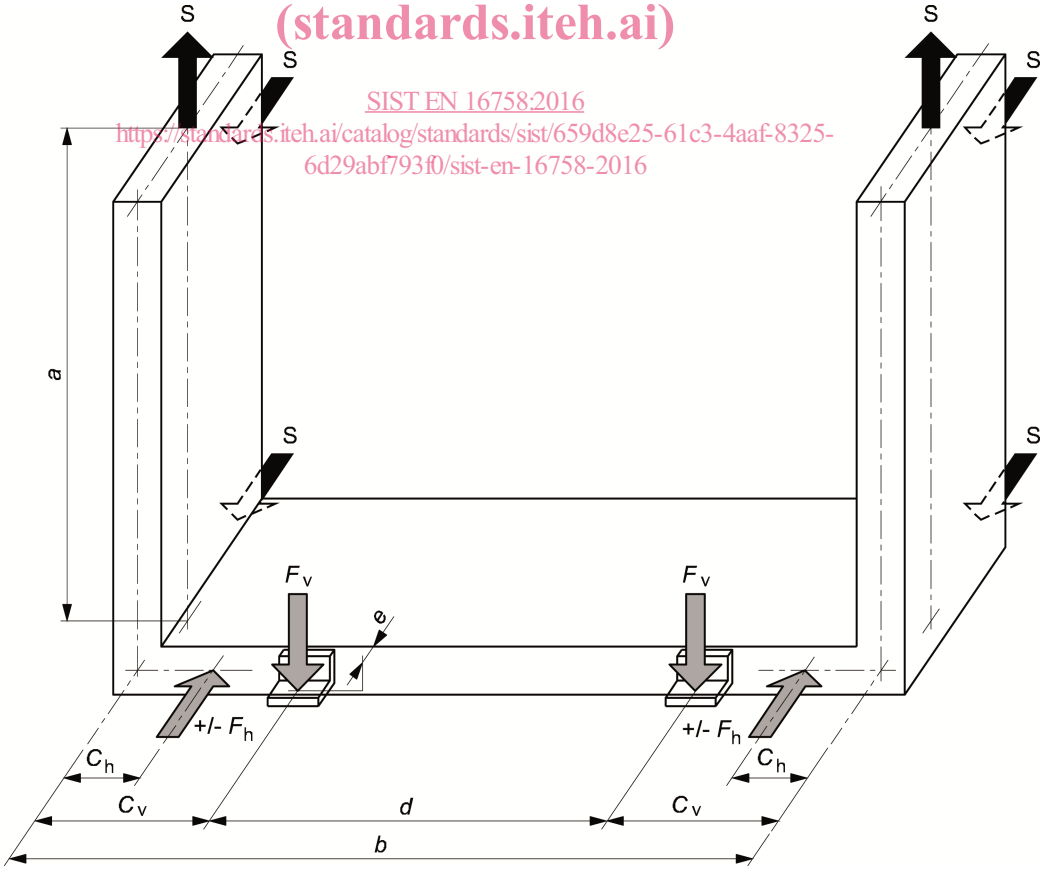

Figure 5 — Schematic L- connection and loading points

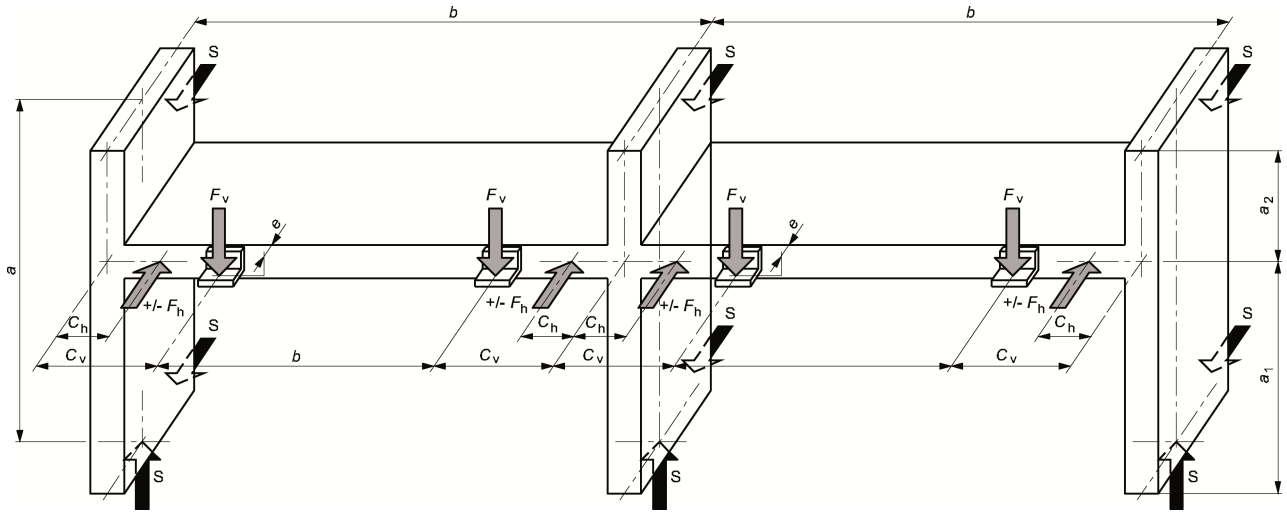

Figure 6 — Multiple schematic T- connection and loading points

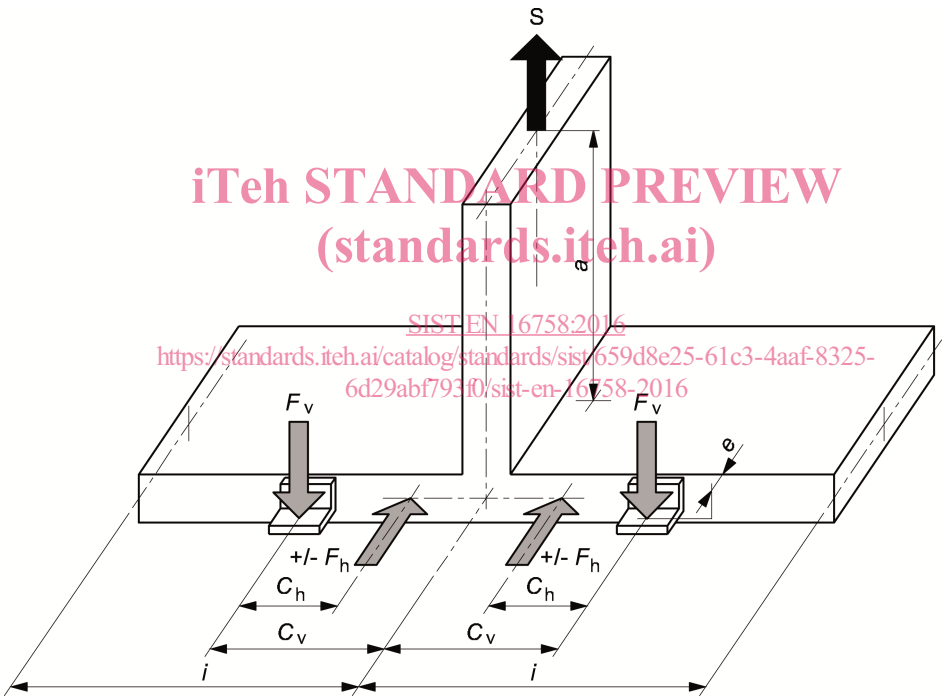

Figure 7 — Axial resistance for an intermediate mullion

NOTE: Figure 7 can be considered as a principle for axial resistance of transoms.

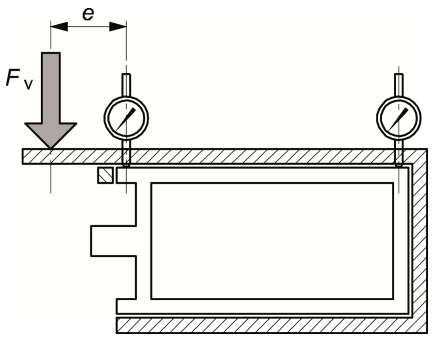

Figure 8 — Dead load (*Fv*)

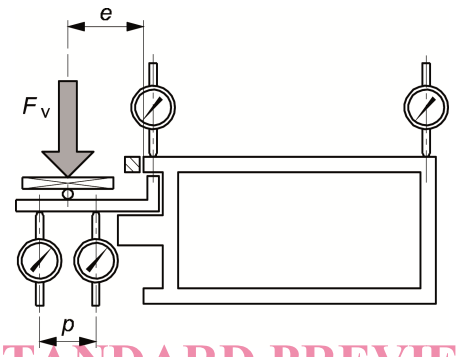

Figure 9 — Dead load (*Fv*) for serviceability limit state

Where the glass supports are tested together with the shear connection a dead load (F_v) should be applied to the glass support as in practice. To establish the serviceability limit state (Annex A) it is advised to limit the the deformation of the glass support at a maximum displacement of 1mm, midway between the two displacement transducer (DT1 and DT2).

The samples are built according to Figure 1 to 3 or Figure 4 to 7 and Figure 8 and 9, for which the following apply:

— a = 300 mm[1)], a_1 = 200 mm and a_2 = 100 mm;

— b ≥ 500 mm[1)], b = 750 mm;

— c_v, c_h [2)] d, e: dimensions of the actual loading points and typical of the construction tested;

— e: the distance from the position of (a) the contact area of the internal glazing gasket and the transom, AND (b) the centre of gravity of the infill the manufacturer is willing to use on his/her curtain walling;

— g = 250 mm[1)];

— i = 250 mm;

— S: fixing of the samples on the test rig (according to the respective loadings).

1) Depending on the circumstances (project specifications or product's details) sizes could differ.

2) Depending on the actual geometry of the connection, F_h must be located on the transom as close as possible to the mullion with a recommended maximum of c_h ≤ 50mm.