



BSI Standards Publication

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

National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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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 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of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by December 2016.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.

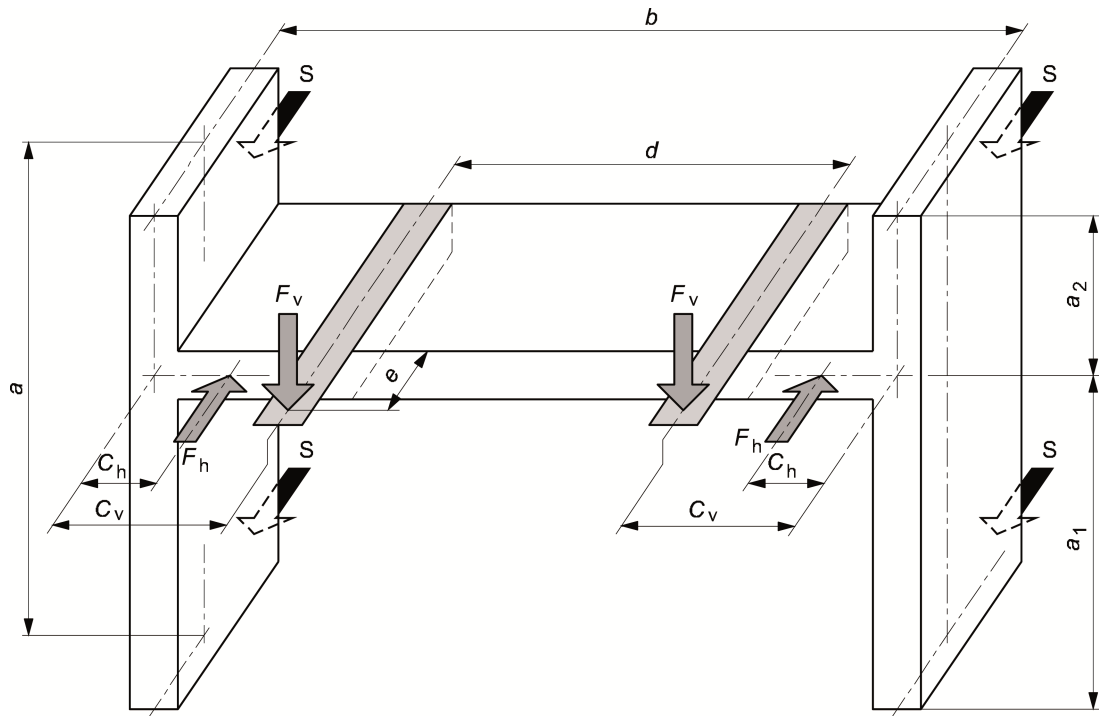


Figure 1 — Schematic T-connection and loading points (any connection method can be chosen)

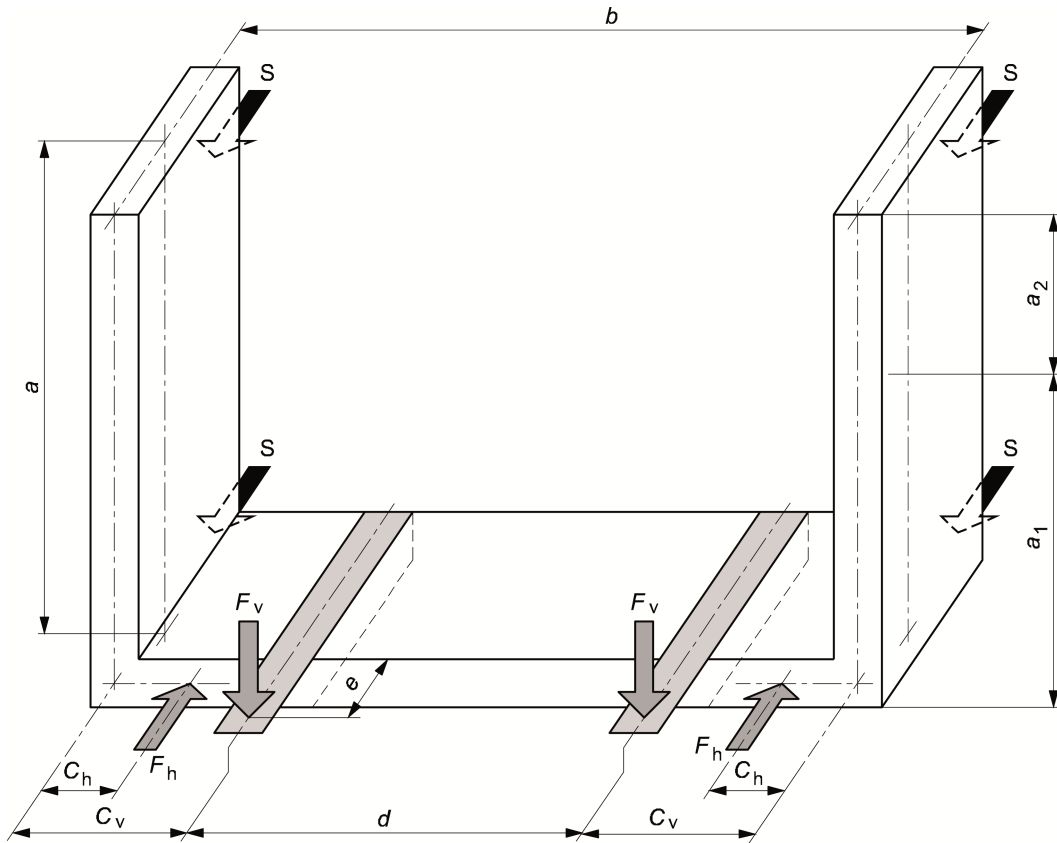


Figure 2 — Schematic L-connection and loading points (any connection method can be chosen)

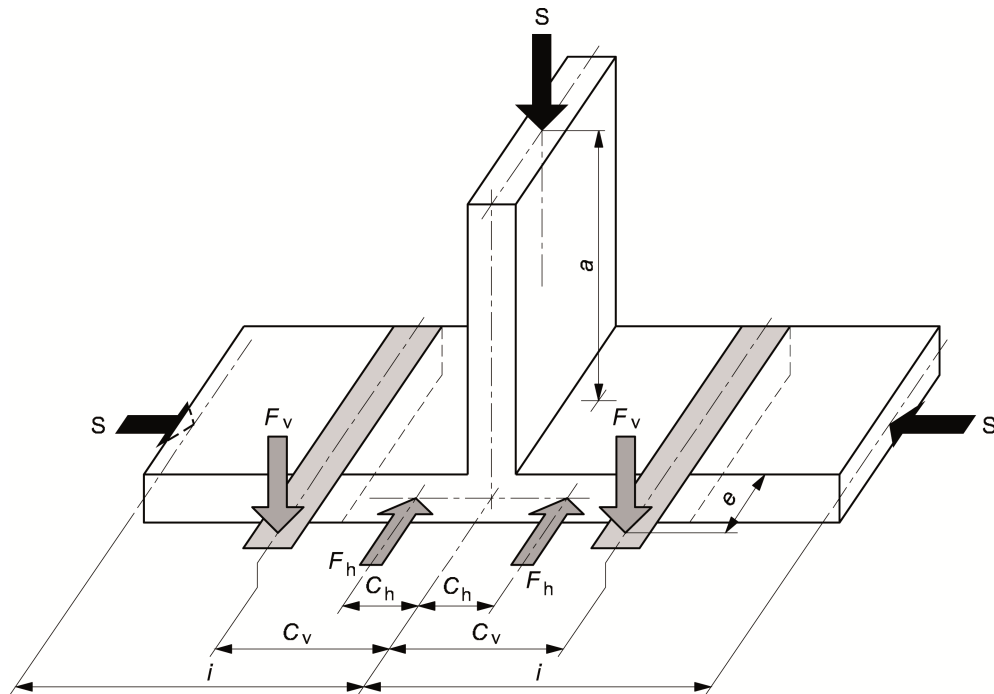


Figure 3 — Axial resistance (any connection method can be chosen)