

Bonded Glazing for doors, windows and curtain walling  
- Verification of mechanical performance of bonding on  
aluminium and steel surfaces

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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ICS 81.040.20

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English Version

**Bonded Glazing for doors, windows and curtain walling -  
Verification of mechanical performance of bonding on  
aluminium and steel surfaces**

Vitrages extérieurs collés (VEC) pour portes, fenêtres  
et façades rideaux - Vérification des propriétés  
mécaniques de collage sur surfaces aluminium et acier

Geklebte Glaskonstruktionen für Türen, Fenster und  
Vorhangfassaden - Überprüfung der mechanischen  
Leistungseigenschaften der Verklebung auf  
Aluminium- und Stahloberflächen

This European Standard was approved by CEN on 11 July 2021.

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN 16759:2021) 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of an identical text or by endorsement, at the latest by February 2022, and conflicting national standards shall be withdrawn at the latest by February 2022.

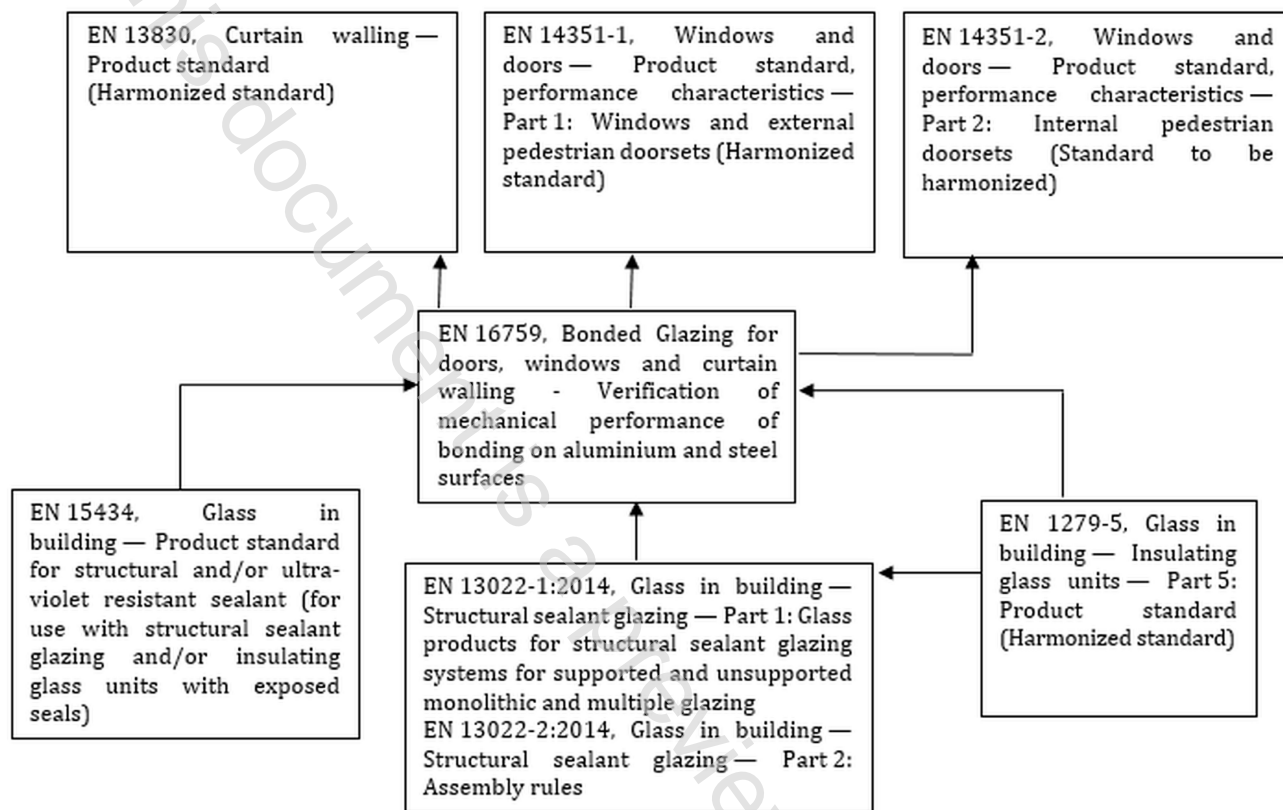
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## Introduction

The flow chart in Figure 1 is explaining the relationship between this document and the relevant product and supporting standards.



**Figure 1 — Relationships with relevant product and supporting standards**

## 1 Scope

This document specifies the method to be used to verify the mechanical performance of the bonded glazing for doors, windows and curtain walling (see examples in Annex A) and its durability. The bonding covered is only that between the glass and the untreated, treated or coated metal surface.

NOTE 1 Bonded glazing was formerly known as structural sealant glazing SSGS.

This document covers bonded glazing incorporated into the product construction works as follows:

- either vertically; or
- up to 83 ° from the vertical (positive slope); or
- up to 15 ° from the vertical onto the building face (negative slope).

NOTE 2 A wall has a positive slope if its outer surface faces upwards (see Figure A.1).

Specific additional safety provisions may apply nationally.

This document gives information to the manufacturer to comply with requirements regarding design, factory production control and assembly rules.

The parts concerned in the testing are the metal surface (anodized and coated aluminium, stainless steel), the surface of glass, provided or not, with a layer or coating, which shall be bonded, the bonding sealant and mechanical restraints when required.

This document does not apply to:

- other surfaces materials;
- direct glazing;
- glass-to-glass bonding and edge seal of insulating glass units (which are covered by EN 13022-1 and EN 1279-5);
- adhesive tapes.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1096-4, *Glass in building — Coated glass — Part 4: Product standard*

EN 1279-1, *Glass in Building — Insulating glass units — Part 1: Generalities, system description, rules for substitution, tolerances and visual quality*

EN 12206-1, *Paints and varnishes — Coating of aluminium and aluminium alloys for architectural purposes — Part 1: Coatings prepared from thermosetting coating powder*

EN 12487, *Corrosion protection of metals — Rinsed and non-rinsed chromate conversion coatings on aluminium and aluminium alloys*

EN 13022-1, *Glass in building — Structural sealant glazing — Part 1: Glass products for structural sealant glazing systems for supported and unsupported monolithic and multiple glazing*

EN 13022-2:2014, *Glass in building — Structural sealant glazing — Part 2: Assembly rules*

EN 13119, *Curtain walling — Terminology*

EN 13830, *Curtain walling — Product standard*

EN 14024:2004, *Metal profiles with thermal barrier — Mechanical performance — Requirements, proof and tests for assessment*

EN 14351-1, *Windows and doors — Product standard, performance characteristics — Part 1: Windows and external pedestrian doorsets*

EN 14351-2, *Windows and doors — Product standard, performance characteristics — Part 2: Internal pedestrian doorsets*

EN 15434:2006+A1:2010, *Glass in building — Product standard for structural and/or ultra-violet resistant sealant (for use with structural sealant glazing and/or insulating glass units with exposed seals)*

EN 15651-1, *Sealants for non-structural use in joints in buildings and pedestrian walkways — Part 1: Sealants for facade elements*

EN 15651-2, *Sealants for non-structural use in joints in buildings and pedestrian walkways — Part 2: Sealants for glazing*

EN ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method (ISO 1463)*

EN ISO 2106, *Anodizing of aluminium and its alloys — Determination of mass per unit area (surface density) of anodic oxidation coatings — Gravimetric method (ISO 2106)*

EN ISO 2128, *Anodizing of aluminium and its alloys — Determination of thickness of anodic oxidation coatings — Non-destructive measurement by split-beam microscope (ISO 2128)*

EN ISO 2143, *Anodizing of aluminium and its alloys — Estimation of loss of absorptive power of anodic oxidation coatings after sealing — Dye-spot test with prior acid treatment (ISO 2143)*

EN ISO 2360, *Non-conductive coatings on non-magnetic electrically conductive base materials — Measurement of coating thickness — Amplitude-sensitive eddy-current method (ISO 2360)*

EN ISO 2931, *Anodizing of aluminium and its alloys — Assessment of quality of sealed anodic oxidation coatings by measurement of admittance (ISO 2931)*

EN ISO 3210, *Anodizing of aluminium and its alloys — Assessment of quality of sealed anodic oxidation coatings by measurement of the loss of mass after immersion in acid solution(s) (ISO 3210)*

EN ISO 4623-2, *Paints and varnishes — Determination of resistance to filiform corrosion — Part 2: Aluminium substrates (ISO 4623-2)*