

**Glass in building - Structural sealant glazing - Part 2:
Assembly rules**

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13022-2:2006+A1:2010 sisaldab Euroopa standardi EN 13022-2:2006+A1:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.06.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 28.04.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 13022-2:2006+A1:2010 consists of the English text of the European standard EN 13022-2:2006+A1:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.06.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 28.04.2010.

The standard is available from Estonian standardisation organisation.

ICS 81.040.20

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

English Version

Glass in building - Structural sealant glazing - Part 2: Assembly rules

Verre dans la construction - Vitrage extérieur collé - Règles d'assemblage

Glas im Bauwesen - Geklebte Verglasung - Teil 2: Verglasungsvorschriften

This European Standard was approved by CEN on 13 March 2006 and includes Amendment 1 approved by CEN on 23 February 2010.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword	4
Introduction.....	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 Requirements.....	6
5 Assembling/bonding.....	7
6 Assembling/bonding control.....	8
6.1 Assembling/bonding control requirements.....	8
6.1.1 General	8
6.1.2 Organisation	8
6.1.3 Assembling – quality system	8
6.2 Inspection and testing tables for assembling glass elements into or onto framework with structural sealant	9
Annex A (informative) Dynamic tensile and peel test on structural sealant.....	16
A.1 Convenience test.....	16
A.2 Purpose	16
A.3 Test specimens.....	16
A.3.1 Tensile test.....	16
A.3.2 Peel test.....	16
A.4 Conditioning of test specimens.....	16
A.5 Test procedure.....	17
A.5.1 In the case of tensile test:	17
A.5.2 In the case of peel test:.....	17
A.6 Observation.....	17
A.7 Report	17
Annex B (informative) Design guidance	19
B.1 Characteristics.....	19
B.2 Characteristic details	20
B.2.1 General	20
B.2.2 Safety in the case of fire – reaction to fire	20
B.2.3 Health – release of dangerous substances	21
B.2.4 Safety in use	21
B.2.5 Structural seal dimensions	21
B.3 Initial assessment of the design	26
B.4 Assembling details.....	27
Annex C (normative) Adhesion tests in assembling/bonding control.....	28
C.1 General	28
C.2 Purpose	28
C.3 Peel test – Method 1	28
C.3.1 Test specimens.....	28
C.3.2 Curing time.....	29
C.3.3 Test procedure.....	29
C.3.4 Observation.....	29
C.4 Static tensile test – Method 2	29
C.4.1 Test specimens.....	29
C.4.2 Curing time.....	30

C.4.3	Test procedure.....	30
C.4.4	Observation.....	30
C.5	Dynamic tensile test.....	30
C.5.1	Test specimens.....	30
C.5.2	Curing time.....	30
C.5.3	Test procedure.....	31
C.5.4	Observation.....	31
C.6	Report.....	31
Annex D (informative)	Two-component sealant: check on the thoroughness of mixing and air inclusions.....	32
D.1	General.....	32
D.2	Purpose.....	32
D.3	Test specimen.....	32
D.4	Test procedure.....	32
D.5	Report.....	33
Annex E (informative)	Sealants, hardness measurements.....	34
E.1	General.....	34
E.2	Purpose.....	34
E.3	Definitions.....	34
E.3.1	Curing time.....	34
E.3.2	Free surface.....	34
E.4	Instruments.....	34
E.5	Calibration.....	35
E.6	Test specimens.....	35
E.7	Test procedure.....	35
E.8	Report.....	36
Annex F (informative)	Provisions for voluntary involvement of third party(ies).....	37
F.1	General.....	37
F.2	Voluntary tasks for third parties.....	37
F.3	Marking and labelling.....	37
	Bibliography.....	38

Foreword

This document (EN 13022-2:2006+A1:2010) has been prepared by Technical Committee CEN/TC 129 “Glass in building”, the secretariat of which is held by NBN.

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 October 2010, and conflicting national standards shall be withdrawn at the latest October 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1, approved by CEN on 2010-02-23.

This document supersedes EN 13022-2:2006.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

A1 This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s). **A1**

This Part of the standard is one of a series of interrelated standard parts dealing with:

- glass products for structural sealant glazing systems,
- installation of glass products in a structural manner on building façades;
- UV-resistant and structural sealant for use in structural sealant glazing.

The interrelated parts are:

- 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: Glass in building — Structural sealant glazing — Part 2: Assembly rules
- EN 15434: 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)

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Structural sealant glazing can be considered as a product; it can also be considered as an assembling method for glass into or onto a framework.

In the first consideration EOTA is mandated by the European Commission to issue ETAs, which sets out the conditions to be fulfilled by a manufacturer in order to place a complete structural sealant glazing and structural sealant glazing kit on the market, intended to be sold as one complete product in one (trade) transaction.

In the second consideration, the framework, glass products, sealant and accessories, materials and components can be the subject of separate, independent (trade) transactions, independently ordered, and supplied on the construction site or in a workshop where an assembler only assembles the various materials and component elements and subsequently installs in the construction, and all in accordance with the conditions and under the responsibility of a designer.

Only when the design of a building can be such that the glass products should be installed directly in the building using a structural glazing technique but under controlled environmental conditions as expressed in Clause 5 of this European Standard should this European Standard apply.

This means that the assembler is only responsible for assembling, not for the design. Assembling and design are two separate tasks with their own responsibilities.

However in a number of countries, contractors have the duty to warn architects if there is a view that something in the design is wrong. An analogy would be in the case of structural sealant glazing where it is assumed that the assembler has the same duty versus the designer. In order to give the assembler a feeling of what the design considerations are, and at the same time to understand what information he requires from the designer, design guidance is given in this European Standard by means of an informative annex.

1 Scope

This European Standard deals with the assembling and bonding of glass elements in a frame, window, door or curtain walling construction, or directly into the building by means of structural bonding of the glass element into or onto framework or directly into the building.

It gives information to the assembler to enable him to organise his work and comply with requirements regarding quality control.

Structural sealant glazing can be incorporated into the façade as follows:

- either vertically; or
- up to 7° from the horizontal, i.e. 83° from the vertical.

This European Standard only deals with the bonding to glass surfaces, i.e. coated or uncoated, and metallic surfaces, i.e. aluminium (anodized or coated), stainless steel, as considered in clause G.2 of EN 15434.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13022-1:2006, *Glass in building — Structural sealant glazing — Part 1: Glass products for structural sealant glazing systems for supported and unsupported monolithic and multiple glazing*

EN 15434:2006, *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 ISO 9001:2000, *Quality management systems — Requirements (ISO 9001:2000)*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13022-1:2006, EN 15434:2006 and the following apply.

3.1

structural bonding

assembling of glass elements into or onto window, door or curtain walling framework by means of a structural seal

3.2

structural sealant

elastic sealant used for making a structural seal

4 Requirements

The assembling of the glass elements into or onto the window, door or curtain-walling framework or directly in the building or construction shall take place under the following controlled environmental conditions:

- temperature of the surface of the frame and of the glass and of the near environment shall be not less than 10 °C and not more than 35 °C;