

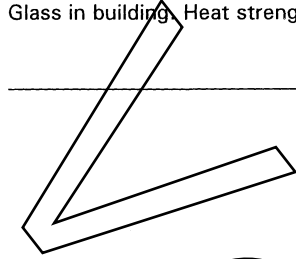
Glas voor gebouwen. Thermisch versterkt glas

Publikatie uitsluitend voor commentaar

Glass in building. Heat strengthened glass

april 1995
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Commentaar voor 15 augustus 1995



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prEN 1863 Glass in building. Heat strengthened glass

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Prijsklasse 24

Voorbeeld
Preview

EUROPEAN STANDARD

DRAFT
prEN 1863

NORME EUROPEENNE

EUROPAISCHE NORM

March 1995

ICS

Descriptors :

English version

Glass in building - Heat strengthened glass

Verre dans la construction - Verre
renforcé thermiquement

Glas im Bauwesen - Teilvorgespanntes
Glas

This draft European Standard is submitted to the CEN members for CEN enquiry. It has been drawn up by Technical Committee CEN/TC 129 .

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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Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 129 "Glass in building" of which the secretariat is held by IBN.

This document is currently submitted to the CEN Enquiry.

CEN/TC129/WG2 "Toughened glass products" prepared a working draft.

During the meeting of CEN/TC 129 in November 1993 a resolution was taken to accept the draft prepared by WG2.

Preview

Introduction

Heat-strengthened glass has a higher thermal resistance and an enhanced mechanical strength when compared with annealed glass.

1 Scope

This European Standard covers tolerances, flatness, edge work, fragmentation and physical and mechanical characteristics of flat heat-strengthened glass for use in buildings.

Bent heat-strengthened glass is mentioned, but this product is not part of this standard.

Heat-strengthened glass, defined hereafter, can be incorporated into assemblies, e.g. laminated glass, or insulating glass units, or undergo an additional treatment, e.g. coating, and shall therefore comply with the requirements of the appropriate finished product standard. Heat-strengthened glass, in this case, will not lose its mechanical or thermal characteristics.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 572-2	GLASS IN BUILDING - BASIC PRODUCT - PART 2: FLOAT GLASS
EN 572-4	GLASS IN BUILDING - BASIC PRODUCT - PART 4: DRAWN SHEET GLASS
EN 572-5	GLASS IN BUILDING - BASIC PRODUCT - PART 5: PATTERNED GLASS
EN 1096-1	COATED GLASS FOR USE IN BUILDINGS - PART 1- CHARACTERISTICS AND PROPERTIES

3 Definitions

For the purposes of this standard the following definitions apply:

3.1 Heat-strengthened glass

This is made by heating a glass so that its temperature exceeds a specific temperature followed by controlled cooling,

introducing a permanent stress distribution within the glass. This stress distribution gives the glass increased resistance to mechanical and thermal stress.

3.2 Flat heat-strengthened glass

This glass has not been deliberately given a specific profile in the course of manufacture.

3.3 Bent heat-strengthened glass

This glass has been deliberately given a specific profile in the course of manufacture (see Clause 6).

3.4 Enamelled heat-strengthened glass

This glass; also known as opaque heat-strengthened glass, has had a ceramic frit fired into the surface during the heat-strengthening process. After this process the ceramic frit becomes an integral part of the glass surface.

3.5 Manufacturing processes

3.5.1 Vertical process

During this process the glass is suspended by tongs.

3.5.2 Horizontal process

During this process the glass is supported on horizontal rollers.

4 Glass products

Heat-strengthened glass products are made from a monolithic glass corresponding to one of the following standards:-

EN 572-2 Float Glass
EN 572-4 Drawn Sheet Glass
EN 572-5 Patterned Glass
EN 1096-1 Coated Glass

5 Fracture characteristics

In the event of breakage, heat-strengthened glass fractures in a manner similar to annealed glass without the formation of islands (see Clause 9).

6 Bent heat-strengthened glass

It is possible to manufacture bent heat-strengthened glass, but

there is insufficient information available to standardise this product, so it is not included in this standard. However, the information in this standard on thickness, edge work and fragmentation is also applicable to bent heat-strengthened glass.

7 Dimensions and tolerances

7.1 Nominal thicknesses and thickness tolerances

The nominal thicknesses and thickness tolerances are those given in the relevant product standard (see Clause 4), which are reproduced in Table 1.

Table 1: Nominal thicknesses and thickness tolerances.

Dimensions in millimetres

Nominal Thickness d	Thickness Tolerances for Glass Type		
	Drawn Sheet	Patterned	Float
3 ¹⁾	- ²⁾	- ²⁾	± 0,2
4	± 0,3	± 0,5	± 0,2
5	± 0,3	± 0,5	± 0,2
6	± 0,3	± 0,5	± 0,2
8	± 0,4	± 1,0	± 0,3

Note 1): Depending on the equipment being used to heat-strengthen the glass, different tolerances on nominal 3mm Float glass may be needed and the manufacturer should be consulted.

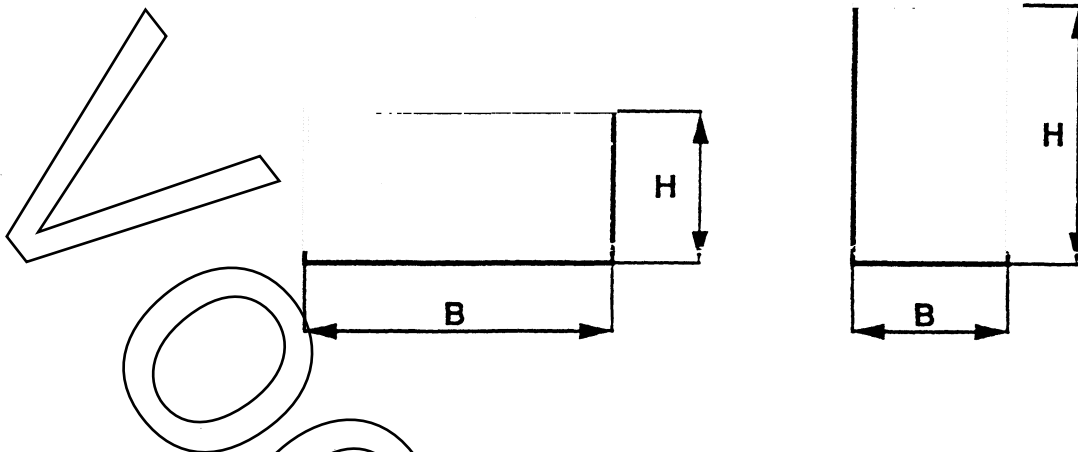
Note 2): Not manufactured.

7.1.1 Method of measurement

The thickness of a pane is determined as for the basic product. The measurement being taken at the centres of the 4 sides, and away from the area of the tong marks (see Figure 3), which may be present.

7.2 Width and length (Sizes)

When heat-strengthened glass sizes are quoted for rectangular panes the first dimension shall be the width, B, and the second dimension the length, H, as shown in Figure 1. It shall be made clear which dimension is the width, B, and which is the length, H, when related to its installed position.



Note: For heat strengthened glass manufactured from patterned glass, the direction of the pattern should be specified relative to one of the dimensions.

Figure 1: Examples of width and length relative to the pane shape.

Many different shapes of pane, other than rectangular, can be manufactured and manufacturers should be consulted.

7.2.1 Maximum and minimum sizes

For maximum and minimum sizes, the manufacturers should be consulted.

7.2.2 Nominal dimensions, tolerances and squareness

The nominal dimensions for width and length being given, the finished pane shall not be larger than a prescribed rectangle resulting from the nominal dimensions increased by the tolerance, t , or smaller than a prescribed rectangle reduced by the tolerance, t . The sides of the prescribed rectangles are parallel to one another and these rectangles shall have a common centre (see Figure 2). The limits of squareness are also the prescribed rectangles. Tolerances are given in Table 2.

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