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Glass in building – Mirrors from silver-coated float glass for internal use – Part 2: Evaluation of conformity; product standard

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EUROPEAN STANDARD

EN 1036-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2008

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English Version

Glass in building - Mirrors from silver-coated float glass for internal use - Part 2: Evaluation of conformity; product standard

Verre dans la construction - Miroirs en glace argentée pour l'intérieur - Partie 2: Evaluation de la conformité; norme de produit

Glas im Bauwesen - Spiegel aus silberbeschichtetem Floatglas für den Innenbereich - Teil 2: Konformitätsbewertung; Produktnorm

This European Standard was approved by CEN on 29 December 2007.

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SS-EN 1036-2:2008 (E)

Foreword

This document (EN 1036-2:2008) 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of an identical text or by endorsement, at the latest by August 2008, and conflicting national standards shall be withdrawn at the latest by August 2008.

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 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).

For relationship with EU Directive(s), see informative Annex ZA which is an integral part of this document.

EN 1036 *Glass in building — Mirrors from silver-coated float glass for internal use* consists of the following parts:

Part 1: Definition, requirements and test methods

Part 2: Evaluation of conformity; product standard

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, 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 the United Kingdom.

1 Scope

This European Standard specifies requirements, the evaluation of conformity and the factory production control of flat mirrors from silver-coated float glass for internal use in buildings.

NOTE For glass products with electrical wiring or connections for, e.g. alarm or heating purposes, other directives, e.g. Low Voltage Directive, may apply.

2 Normative references

The following referenced documents are indispensable for the application 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 356, *Glass in building — Security glazing — Testing and classification of resistance against manual attack*

EN 410, *Glass in building — Determination of luminous and solar characteristics of glazing*

EN 572-1, *Glass in building — Basic soda lime silicate glass products — Part 1: Definition and general physical and mechanical properties*

EN 572-2, *Glass in building — Basic soda lime silicate glass products — Part 2: Float glass*

EN 572-8, *Glass in building — Basic soda lime silicate glass products — Part 8: Supplied and final cut sizes*

EN 673, *Glass in building — Determination of thermal transmittance (U value) — Calculation method*

EN 1036-1:2007, *Glass in building — Mirrors from silver-coated float glass for internal use — Part 1: Definitions, requirements and test methods*

EN 1063, *Glass in building — Security glazing — Testing and classification of resistance against bullet attack*

EN 12600, *Glass in building — Pendulum test — Impact test method and classification for flat glass*

EN 12758, *Glass in building — Glazing and airborne sound insulation — Product descriptions and determination of properties*

EN 12898, *Glass in building — Determination of the emissivity*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13501-2, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 13501-5, *Fire classification of construction products and building elements — Part 5: Classification using data from external fire exposure to roofs tests*

EN 13541, *Glass in building — Security glazing — Testing and classification of resistance against explosion pressure*

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3 Terms and definitions

For the purpose of this document, the terms and definitions given in EN 1036-1:2007 and the following apply.

3.1

Initial Type Testing (ITT)

determination of the performance of a product (characteristic, durability), on the basis of either actual tests or other procedures (such as conventional, standardised, tabulated or general accepted values, standardised or recognised calculation methods, test reports when made available,...), in accordance with this European Standard that demonstrates compliance with this European Standard

3.2

test report

document that covers the results of tests undertaken on a representative sample of the product from production or on a prototype design of the product

3.3

product description

document that details the relevant parameters, e.g. process conditions, structure, for defining a product that complies with the standard. It includes specific reference(s) to characteristics that are modified by the production process

3.4

significant change

variation in performance beyond the permitted tolerance for the characteristic

4 Requirements

4.1 Product description

For conformity purposes the mirror manufacturer is responsible for the preparation and maintenance of the product description. This description shall describe the product and/or product families.

Disclosure of the product description shall be at the discretion of the mirror manufacturer or his agent except in the case of regulatory requirements.

The description shall contain at least a normative part. The description may also contain an informative part, when the manufacturer foresees further development of the product.

The normative part of the description shall contain the following information:

- reference to EN 1036-1 and -2 and all other standards with which the manufacturer claims compliance;
- materials making up the layers of the mirror;
- glass substrates.

The layers may be listed either in full, i.e. chemical composition, or by manufacturers' code.

The substitution of materials shall maintain the conformity with the product description. The substituting material can be added to the product description when compliance has been demonstrated.

4.2 Conformity with the definition of mirror

Products shall conform to the definition and fulfil the requirements of mirror as defined in EN 1036-1.

4.3 Determination of the characteristic's performances

4.3.1 Characteristics of mirror

4.3.1.1 General

The characteristics of mirror are in general those of the glass substrate (see 4.3.1.2).

4.3.1.2 Characteristics of the soda lime silicate glass panes used for the production of mirrors

Panes shall be made of soda lime silicate float glass according to EN 572-1, EN 572-2, 572-8.

For the characteristics listed in Table 1, for the soda lime silicate glass panes, generally accepted values or calculated values shall be used.

Since the mirror production process does not change the majority of the characteristics of Table 1 significantly they shall be used for mirrors. The characteristics that are significantly changed are the light transmittance/reflectance and solar heat transmittance/reflectance.

Table 1 — Information on the characteristics of soda lime silicate glass panes, according to EN 572-1, used for the production of mirrors

Characteristic	Symbol	Unit
- density	ρ	kg/m ³
- hardness	HK _{0,1/20}	GPa
- young's modulus	E	Pa
- poisson's ratio	μ	dimensionless
- characteristic bending strength	$f_{g,k}$	Pa
- resistance against sudden temperature changes and temperature differentials		K
- specific heat capacity	c	J/(kg·K)
- coefficient of linear expansion	α	K ⁻¹
- thermal conductivity (for U-value)	λ	W/(m·K)
- mean refractive index to visible radiation	n	dimensionless
- emissivity	ε	dimensionless
- light transmittance	τ_v	dimensionless
- solar direct transmittance	τ_e	dimensionless
- total energy transmittance	g	dimensionless