



BSI Standards Publication

Glass in building — Coated glass

Part 3: Requirements and test methods for class C and D coatings

National foreword

This British Standard is the UK implementation of EN 1096-3:2012. It supersedes BS EN 1096-3:2001 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/520/1, Basic and transformed glass products.

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

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Foreword

This document (EN 1096-3:2012) 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of an identical text or by endorsement, at the latest by July 2012, and conflicting national standards shall be withdrawn at the latest by July 2012.

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 supersedes EN 1096-3:2001.

The main changes compared to the previous edition are:

- reference to the future EN 1096-5, *Test method and classification for the Self-cleaning performances of coated glass surfaces*;
- the introduction of a method to deal with toughenable / heat strengthenable and to be toughened / to be heat strengthened coated glass, see Annex A.

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, Turkey and the United Kingdom.

1 Scope

This European Standard specifies requirements and a test method related to resistance to solar radiation for coated glass for use in buildings.

This test is aimed at evaluating if the exposure to solar radiation over an extended period of time produces any appreciable change in light transmittance and solar transmittance of the coated glass as well as a reduction of the infrared reflectance in the case of low emissivity coatings.

This European Standard applies to Class C and D coatings as defined in EN 1096-1 and used in insulating glass units.

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 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: Definitions and general physical and mechanical properties*

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

EN 1096-1:2012, *Glass in Building — Coated glass — Part 1: Definitions and classification*

EN 1279 (all parts), *Glass in Building — Insulating glass units*

EN 1279-2:2002, *Glass in building — Insulating glass units — Part 2: Long term test method and requirements for moisture penetration*

EN 12150-1, *Glass in Building — Thermally toughened soda lime silicate safety glass — Part 1: Definitions and description*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1096-1 apply.

4 Requirements

The coated glass complying with this European Standard shall meet the requirements given in Table 1 as they relate to the characteristic resistance to solar radiation.

Table 1 — Requirements

Test piece	Visual inspection	Spectrophotometric measurements
Exposed test specimens	No additional defects on the coating are seen as compared to the unexposed double glass test specimens	No requirements
Exposed single coated glass test piece	No requirements	The transmittance values at 550 nm and 900 nm shall differ from the corresponding values of the unexposed single coated glass sample by no more than $\pm 0,03$ For a glass claimed to have a low emissivity coating, the reflectance at 8 μm shall decrease by no more than 0,02.

5 Samples, test pieces and test specimens

5.1 Test pieces

5.1.1 Coated annealed glass

A sample of 1000 mm x 500 mm is needed. Two square test pieces of minimum size 250 mm x 250 mm shall be cut from the sample.

5.1.2 Toughened or heat strengthened coated glass

For the thermally treated coated glass, defined in EN 1096-1:2012, 3.1.8 to 3.1.11, as the test pieces cannot be cut from test samples, a special procedure has to be employed to obtain the test pieces (see annex A).

5.1.3 Coated toughened or heat strengthened glass

Use coated annealed glass samples for testing this type of coated glass.

5.2 Preparation of test specimens

Two insulating glass units shall be manufactured as test specimens. The insulating glass units shall consist of one of the test pieces, 12 mm airspace and a piece of 4 mm clear float glass (in compliance with EN 572-1 and EN 572-2). The dew point of the test specimens shall not be higher than -25°C , when measured at $(23 \pm 5)^{\circ}\text{C}$, according to EN 1279-2:2002, Annex A, or equivalent. The dew point is ensured when the insulating glass unit is manufactured in accordance with the EN 1279 series.

The edge area of the test specimens shall be covered with a reflecting aluminium foil (40 ± 5) mm wide as a means of protection for the sealant components.

6 Initial evaluation of the test pieces

The external surfaces of the test pieces shall be cleaned with a soft tissue using demineralised water, having a conductivity lower than 30 μS . Drying shall also be done with a soft tissue. If necessary this cleaning procedure can be repeated.