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# **Glass for glazing**

## **Part 1. Classification**

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**Verre pour la pose des vitres  
Partie 1. Classement**

**Glas für Beglasungszwecke  
Teil 1. Klassifizierung**

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## Foreword

The first edition of this British Standard was published in 1941 under the direction of the Building Divisional Council. Before publication of the 1953 revision, however, responsibility for the standard had been transferred to the Glass Standards Committee under the Chemical Divisional Council. The 1964 revision resulted from a careful review of more recent developments and of current practice in the industry.

The present revision replaces Part 1 'Classification of glass for glazing' of BS 952 : 1964, of which Part 2 'Terminology for work on glass' will be revised in the future. A new Part 3 'Quality of glass for glazing' will also be published in the future.

The types of soda-lime-silica glass currently available for building purposes are classified in Part 1. The characteristics of each type of glass are described, and thickness (substance), tolerance, weight (mass per unit area)\* (in kg/m<sup>2</sup>) and normally available maximum sizes are listed.

This Part of this British Standard is intended to be used in conjunction with BS code of practice CP 152 'Glazing and fixing of glass for buildings', which incorporates the following definitions.

(a) **glazing.** The securing of glass in prepared openings such as windows, door panels, screens and partitions.

(b) **fixing.** The securing of glass to surfaces such as walls or ceilings.

The special requirements for glass for luminaires are not dealt with in this standard, and other special forms of glass

that are covered by British Standards (e.g. by BS 1207 and BS 5051) have been mentioned only briefly.

In bringing the various sections of Part 1 up to date the classifications have been divided in a different way from that used in the 1964 edition of the standard, and this should facilitate the amendment of certain sections as required by the expected rapid progress in glass technology in the near future.

The sections on laminated and toughened glass have been enlarged to take into account the many recent developments in these types of glass, resulting from the desire to improve work and leisure environments, and the need to guard against attack and wilful damage.

The 'normal maximum sizes' quoted in this standard are those currently available for the types of glass most commonly used for general glazing purposes, but these will be adjusted to meet changes in demand, and for special requirements the manufacturers should be consulted. Maximum sizes are not given for special types of glass because those available differ from time to time.

It should be noted that the maximum sizes quoted are in almost all cases larger than those normally recommended for glazing, and for details of recommended glazing sizes, and information to be given when ordering glass, reference should be made to CP 152. Reference should also be made to CP 152 for the purposes for which the types of glass are considered suitable, because the information is not included in this standard.

\*It should be noted that the traditional term 'weight' is used throughout this standard in preference to the more scientific expression 'mass per unit area'.

British Standard

# Glass for glazing

## Part 1. Classification

### Section one. General

#### 1. Scope

This Part of this British Standard classifies soda-lime-silica glasses for building purposes into three groups – annealed flat glasses; processed flat glasses; and miscellaneous glasses. Terms and definitions, together with details of nominal thickness, weight and tolerance are given.

Appendix A gives the methods of measurement for thickness and linear dimensions for all types of flat glass.

#### 2. References

The titles of the standards publications referred to in this standard are listed on the inside back cover.

#### 3. Definitions

For the purposes of this British Standard the following definitions apply.

Definitions of other, more specialized terms are given in the clauses where such terms are used.

**3.1 transparent glass.** Glass that transmits light and permits clear vision through it.

**3.2 translucent glass.** Glass that transmits light with varying degrees of diffusion so that vision is not clear.\*

**3.3 safety glazing material.** A glazing material that reduces or eliminates unreasonable risk of death or serious injury as indicated by its remaining unbroken or breaking safely under the test specified†.

**3.4 security glazing material.** Glazing material that affords protection against a specified level of attack.

**3.5 weight.** A traditional term used in the glass and glazing industries to describe mass per unit area.

#### 4. General requirements

**4.1 Material.** All window glass should be of such quality that surface deterioration will not develop after glazing under normal conditions of use, provided the glass is cleaned at reasonable intervals. Window glasses of the soda-lime-silica type will have adequate durability if they have the following composition:

- silica and alumina together not less than 71 %;
- alkalis (Na<sub>2</sub>O; K<sub>2</sub>O) not greater than 15 %;
- lime and magnesia together not less than 10 %.

**4.2 Thickness of glass.** The minimum and maximum value when measured by the method described in appendix A shall be within the tolerance listed in the appropriate table.

**4.3 Out-of-square.** The rectangularity of a glass pane shall be such that, when checked by the method described in appendix A, it would fit into a rectangle of the maximum permitted dimensions for the nominal size of the glass pane, and would circumscribe a rectangle of the minimum permitted size.

### Section two. Annealed flat glasses

#### 5. Float or polished plate glass

**5.1 clear float or polished plate glass.** Transparent glass, the surfaces of which are flat and parallel so that they provide clear, undistorted vision and reflection. Float glass is manufactured by allowing the glass from the tank furnace to flow across a bath of molten metal. Polished plate glass is produced by grinding, smoothing and polishing the surfaces of rough cast glass made sufficiently thick to allow the surface to be worked down to the required plate thickness.

Generally, clear float glass has superseded polished plate glass in thicknesses up to 25 mm. Polished plate glass is still available in thicknesses greater than 25 mm and up to 38 mm.

#### 5.2 body tinted float glass or polished plate glass.

Transparent glass in which the whole body of the glass is tinted. Such glass reduces solar radiation transmission by increased absorption.

Tints available are green, grey and bronze.

Thicknesses available are 4 mm, 5 mm, 6 mm, 10 mm and 12 mm; whether all thicknesses are available in each tint depends on the manufacturer. Normal maximum sizes may differ from those for clear float glass.

**5.3 surface modified tinted float glass.** Transparent glass which, during manufacture, has a coloured layer of metal ions injected into the glass. Solar control properties are provided by an increase in reflection and absorption.

Generally available thicknesses are 6 mm, 10 mm and 12 mm. Normal maximum sizes may differ from those for clear float glass.

\*The diffusion may be produced either by patterning the surface during the manufacture or by surface treatment after manufacture, i.e. sandblasting, acid, etc. The processes are dealt with in Part 2 of this standard (in course of preparation).

†A future British Standard will deal with requirements for safety glazing.