

# Glazing for buildings —

## Part 4: Code of practice for safety related to human impact

ICS 81.040.20

## Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/520, Glass and glazing in building, to Subcommittee B/520/4, Properties and glazing methods, upon which the following bodies were represented:

British Adhesives and Sealants Association  
 British Plastics Federation  
 British Woodworking Federation  
 Consumer Policy Committee of BSI  
 Council for Aluminium in Building  
 Flat Glass Manufacturers' Association  
 Glass and Glazing Federation  
 Nottingham University  
 Office of the Deputy Prime Minister — Building Division  
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## Foreword

This part of BS 6262 has been prepared by Subcommittee B/520/4. It supersedes BS 6262-4:1994, which is withdrawn.

BS 6262:1982 is being revised and also restructured to simplify its use and will be published in seven parts:

- *Part 1: General methodology for the selection of glazing;*
- *Part 2: Energy, light and sound;*
- *Part 3: Fire, security and wind loading;*
- *Part 4: Safety related to human impact;*
- *Part 5: Frame design considerations;*
- *Part 6: Special applications;*
- *Part 7: Provision of information.*

Recommendations for standards of workmanship for glazing have been published separately in BS 8000-7 and therefore this subject is not dealt with in this British Standard.

Since the correct selection of materials to be used in glazing for buildings depends on many factors, the recommendations in this part of BS 6262 should be used in conjunction with those in the other parts.

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

In particular, attention is drawn to the following statutory regulations.

The Building Regulations 2000 [1].

The Building Regulations (Northern Ireland) [2].

The Building Standards (Scotland) Regulations 2004 [3].

### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 13 and a back cover.

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## 1 Scope

This part of BS 6262 gives safety recommendations for the vertical use of glass and plastics glazing sheet materials in locations likely to be subject to accidental human impact. The recommendations are intended to reduce impact related injuries and in particular the risk of cutting and piercing injuries.

These recommendations do not apply to:

- a) patent glazing (see BS 5516-1);
- b) glass in non-vertical applications (see BS 5516-2);
- c) glazing for furniture and fittings (see BS 7376 and BS 7449);
- d) glazing for commercial greenhouses (see BS 5502-21);
- e) glazing for domestic greenhouses.

Recommendations for standards of workmanship for glazing have been published separately in BS 8000-7 and therefore this subject is not dealt with in this British Standard.

## 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.

BS 952-1, *Glass for glazing — Classification.*

BS 6180:1999, *Barriers in and about buildings — Code of practice.*

BS 6206:1981, *Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings<sup>1)</sup>.*

BS 7449:1991, *Specification for inclusion of glass in the construction of furniture, other than tables or trolleys, including cabinets, shelving systems and wall hung or free standing mirrors.*

BS EN 572-3, *Glass in building — Basic soda lime silicate glass products — Part 3: Polished wired glass.*

BS EN 572-6, *Glass in building — Basic soda lime silicate glass products — Part 6: Wired patterned glass.*

BS EN 12150-1, *Glass in building — Thermally toughened soda lime silicate safety glass — Part 1: Definition and description.*

BS EN 12600:2002, *Glass in building — Pendulum test — Impact test method and classification for flat glass.*

BS EN 13024-1, *Glass in building — Thermally toughened borosilicate safety glass — Part 1: Definition and description.*

BS EN 14179-1, *Glass in building — Heat soaked thermally toughened soda lime silicate safety glass — Part 1: Definition and description.*

BS EN 14428, *Shower enclosures — Functional requirements and test methods.*

BS EN 14449, *Glass in building — Laminated glass and laminated safety glass — Evaluation of conformity.<sup>2)</sup>*

BS EN ISO 12543-2, *Glass in building — Laminated glass and laminated safety glass — Part 2: Laminated safety glass.*

## 3 Terms and definitions

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

### 3.1

#### critical location

part of a door, wall or other part of a building most likely to be subject to accidental human impact

<sup>1)</sup> Most of this British Standard has been withdrawn with the exception of safety plastics.

<sup>2)</sup> At the time of publication this document is awaiting UK implementation pending a corrigendum to be issued by CEN.

**3.2**

**glazing**, noun

glass, or plastics glazing sheet material (PGSM), for installation into a building

**3.3**

**glazing**, verb

action of installing glass, or plastics glazing sheet materials (PGSMs), into a building

**3.4**

**insulating glass unit**

an assembly consisting of at least two panes of glass, separated by one or more spaces, hermetically sealed along the periphery, mechanically stable and durable

[BS EN 1279-1:2004, definition 3.1]

NOTE The individual panes may be of different sizes, glass types and/or thicknesses.

**3.5**

**manifestation**

technique for enhancing a person's awareness of the presence of transparent glazed areas

**3.6**

**pane**

single piece of glass, or plastics glazing sheet material, in its finished size ready for glazing

**3.7**

**plastics glazing sheet material**

plastics material in the form of a single sheet, or a combination of sheets laminated together, or an extruded multi-wall sheet

**3.8**

**pane size**

dimensions of a pane

NOTE See Figure 1.

**3.9**

**unbacked mirror glazing**

glazing which has either no backing or only partial backing behind its entire area, or has a backing that does not retain its integrity or is cracked or broken when tested as described in BS 7449:1991, Annex A

**3.10**

**vertical**

true vertical within a tolerance of 15°

**3.11**

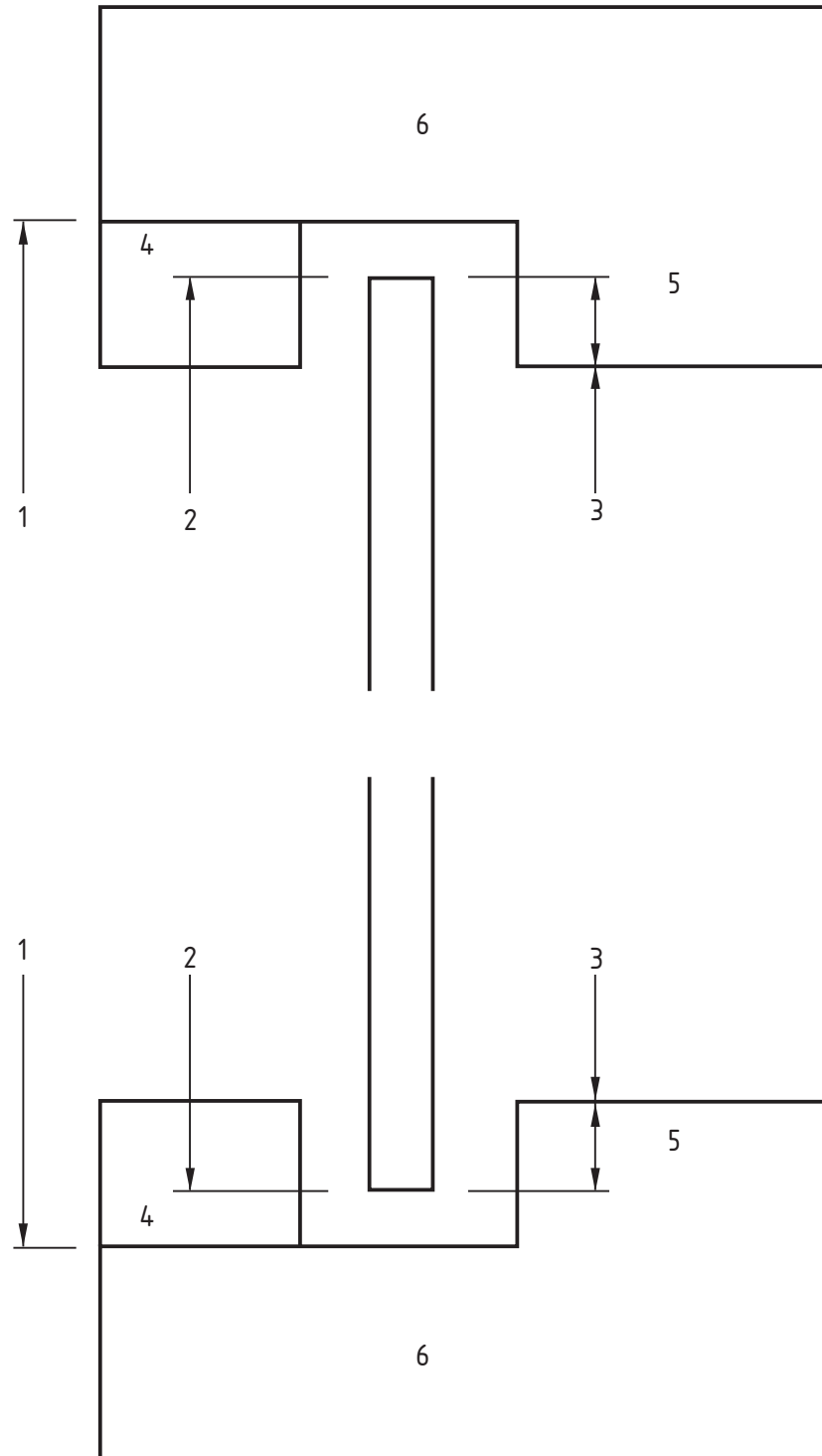
**safety glass**

glass product conforming to BS EN 572-3, BS EN 572-6, BS EN 12150-1, BS EN ISO 12543-2, EN 14179-1 or BS EN 13024-1 that has a performance classification in accordance with BS EN 12600

**3.12**

**safety plastics**

plastics glazing sheet material that has been classified in accordance with BS 6206



## Key

- |              |              |
|--------------|--------------|
| 1 Tight size | 4 Bead       |
| 2 Pane size  | 5 Edge cover |
| 3 Sight size | 6 Frame      |

Figure 1 — Definition of size

## 4 General safety considerations

Many human impact injuries are due to failure to take reasonable safety precautions. Some materials, such as glass, might break under impact and cause injury. Most people are aware of this and treat such materials with due care. However, a person's ability to perceive this potential risk and to cope with it can vary. Safety standards are therefore based on a number of factors including the assumption of a reasonable level of awareness and behaviour and also suitable product design and choice of materials.

Accident statistics show that glazing in some locations in buildings is more vulnerable to human impact than in others. These critical locations are:

- a) in and around doors (particularly in side panels which might be mistaken for doors);
- b) at low levels in walls and partitions.

The designer, or specifier, should take precautions to reduce the risk of injuries from accidental human impact in these locations by:

- 1) selecting glazing of a suitable type, thickness and size, primarily by reference to impact behaviour and safety characteristics (see Clause 6); or
- 2) providing mechanical protection to glazing in critical locations; and
- 3) where appropriate, enhancing a person's awareness of the presence of glazing by incorporating manifestation.

Glazing in locations other than critical locations is not likely to be subject to human impact and consequently not likely to cause injury.

## 5 Design considerations

The principal design considerations to be taken into account by the designer, or specifier, when selecting glazing should be:

- a) the properties of materials, in particular their breakage characteristics;

NOTE 1 Information about breakage characteristics is given in Annex A.

- b) the design of the building and its use, in particular the number and likely behaviour of people expected to be in close proximity to the glazing in critical locations;
- c) the sizes of glazing in critical locations;
- d) position and design of barrier (see Clause 9);
- e) requirements for fire, security barriers and wind loading.

NOTE 2 BS 6262-3 covers recommendations on fire, security and wind loading.

## 6 Impact performance

### 6.1 Safety glass

#### 6.1.1 General

Safety glass should conform to BS EN 572-3, BS EN 572-6, BS EN 12150-1, BS EN ISO 12543-2 or BS EN 13024-1 and should have a performance classification in accordance with BS EN 12600.

Glass products can have their impact performance classified by testing in accordance with BS EN 12600. This test method employs a 50 kg impactor swung from three specific drop heights.

The behaviour of the test specimens is classified in BS EN 12600:2002 using the following designation:

$\alpha(\beta)\Phi$

where:

$\alpha$  is the highest drop height class at which the product either did not break or broke in accordance with a) or b) of BS EN 12600:2002, Clause 4;

$\beta$  is the mode of breakage (see Annex A);

$\Phi$  is the highest drop height class at which the product either did not break or broke in accordance with a) of BS EN 12600:2002, Clause 4.



### 6.1.2 Acceptance criteria

BS EN 12600 gives the following acceptance criteria when specimens are tested in accordance with BS EN 12600:2002, Clause 5:

“each test piece shall either not break or shall break as defined in one of the following ways:

- a) numerous cracks appear, but no shear or opening is allowed within the test piece through which a 76 mm diameter sphere can pass when a maximum force of 25 N is applied (in accordance with Annex A). Additionally, if particles are detached from the test piece up to 3 min after impact, they shall, in total, weigh no more than a mass equivalent to 10 000 mm<sup>2</sup> of the original test piece. The largest single particle shall weigh less than the mass equivalent to 4 400 mm<sup>2</sup> of the original test piece;
- b) disintegration occurs and the 10 largest crack-free particles collected within 3 min after impact and weighed, all together, within 5 min of impact shall weigh no more than the mass equivalent to 6 500 mm<sup>2</sup> of the original test piece. The particles shall be selected only from the portion of the original test piece exposed in the test frame. Only the exposed area of any particle retained in the test frame shall be taken into account in determining the mass equivalent.”

### 6.2 Safety plastics

Safety plastics should be classified in accordance with BS 6206. Plastics glazing sheet materials used in critical locations should possess a given level of impact resistance as determined by testing single panes in accordance with BS 6206.

BS 6206 classifies impact performance from class A (highest) to class C (lowest) and defines safety plastics as materials which, if tested by impact from a 45 kg impactor swung from one of three specified heights, either does not break or breaks safely.

Safe breakage is defined in BS 6206 and can be summarized as follows. Safe breakage is when the broken pieces do not have sharp, pointed protrusions.

## 7 Marking for safety glazing

### 7.1 General

Installed safety glass and safety plastics in critical locations should be indelibly marked in such a position so that the marking is visible after installation.

### 7.2 Safety glass

The installed safety glass should be clearly and indelibly marked with the following information:

- the name or trade mark of the manufacturer, merchant or installer<sup>3)</sup>;
- the identifier of the product standard that the safety glass conforms to; e.g. BS EN 12150; BS EN 14179; BS EN 14449;
- the classification according to BS EN 12600.

When impacted from one side only then the classification should be  $2_0(\beta)\Phi$  or  $3_0(\beta)\Phi$ , whichever is appropriate.

NOTE To give the information requirement for Table 1 only the first part of the designation is required. However, the full designation might be required to meet other regulatory requirements (see BS 6262-1). Attention is drawn to the Building Regulations for England and Wales [1], the Building Regulations for England and Wales Approved Document K [4], The Building Regulations (Northern Ireland) [2] and The Building Standards (Scotland) Regulations [3].

### 7.3 Safety plastics

Safety plastics should be marked in accordance with BS 6206:1981, Clause 6.

<sup>3)</sup> One such source is the Register of Safety Glazing Marks, 44-48 Borough High St., London SE1 1XP.

**Table 1 — Recommendations on class of safety glass or safety plastics to be used in critical locations**

Critical location		Minimum recommended classification	
		Safety glass <sup>a</sup>	Safety plastics <sup>c</sup>
Doors (see 8.2)	Minor dimension of pane > 900 mm	2(β)Φ	Class B
	Minor dimension of pane ≤ 900 mm	3(β)Φ	Class C
Door side panels (see 8.3)	Minor dimension of pane > 900 mm	2(β)Φ	Class B
	Minor dimension of pane ≤ 900 mm	3(β)Φ	Class C
Low level glazed areas (see 8.4)	Irrespective of pane dimensions	3(β)Φ	Class C
Fully backed mirror glazing (see 8.5a))	Minor dimension of pane > 900 mm	2(β)Φ	Class B
	Minor dimension of pane ≤ 900 mm	3(β)Φ	Class C
Unbacked mirror glazing accessible from one side only (see 8.5b))	Minor dimension of pane > 900 mm	2 <sub>0</sub> (β)Φ <sup>b</sup>	Class B <sub>0</sub>
	Minor dimension of pane ≤ 900 mm	3 <sub>0</sub> (β)Φ <sup>b</sup>	Class C <sub>0</sub>
Bathing areas (see 8.7)	Irrespective of pane dimensions	3(β)Φ	Class C
Areas of special risk (see 8.8)	Irrespective of pane dimensions	3(β)Φ	Class C

<sup>a</sup> The second and third parts of the BS EN 12600 classification, i.e. (β)Φ, are not required for the classification of safety glass in this British Standard.

<sup>b</sup> In these locations the safety glass is only required to be tested and classified from the face that, when installed, is likely to be impacted. The safety glass should be marked with the classification 2<sub>0</sub> or 3<sub>0</sub> respectively, see Clause 7.

<sup>c</sup> These classifications are taken from BS 6206.

## 8 Critical locations

NOTE For glazing with permanent screen protection see Clause 9.

### 8.1 General

Some frequently encountered critical locations are described in 8.2, 8.3, 8.4, 8.5, 8.6, 8.7 and 8.8, together with minimum recommendations for glass and plastics glazing sheet materials to be used in these locations. These recommendations are based on reasonable standards of behaviour by the building user.

When it is required for the glazing to remain in position on impact and be unbroken, or when the glazing is not fully framed on all edges, the designer or specifier should seek advice from the manufacturer.

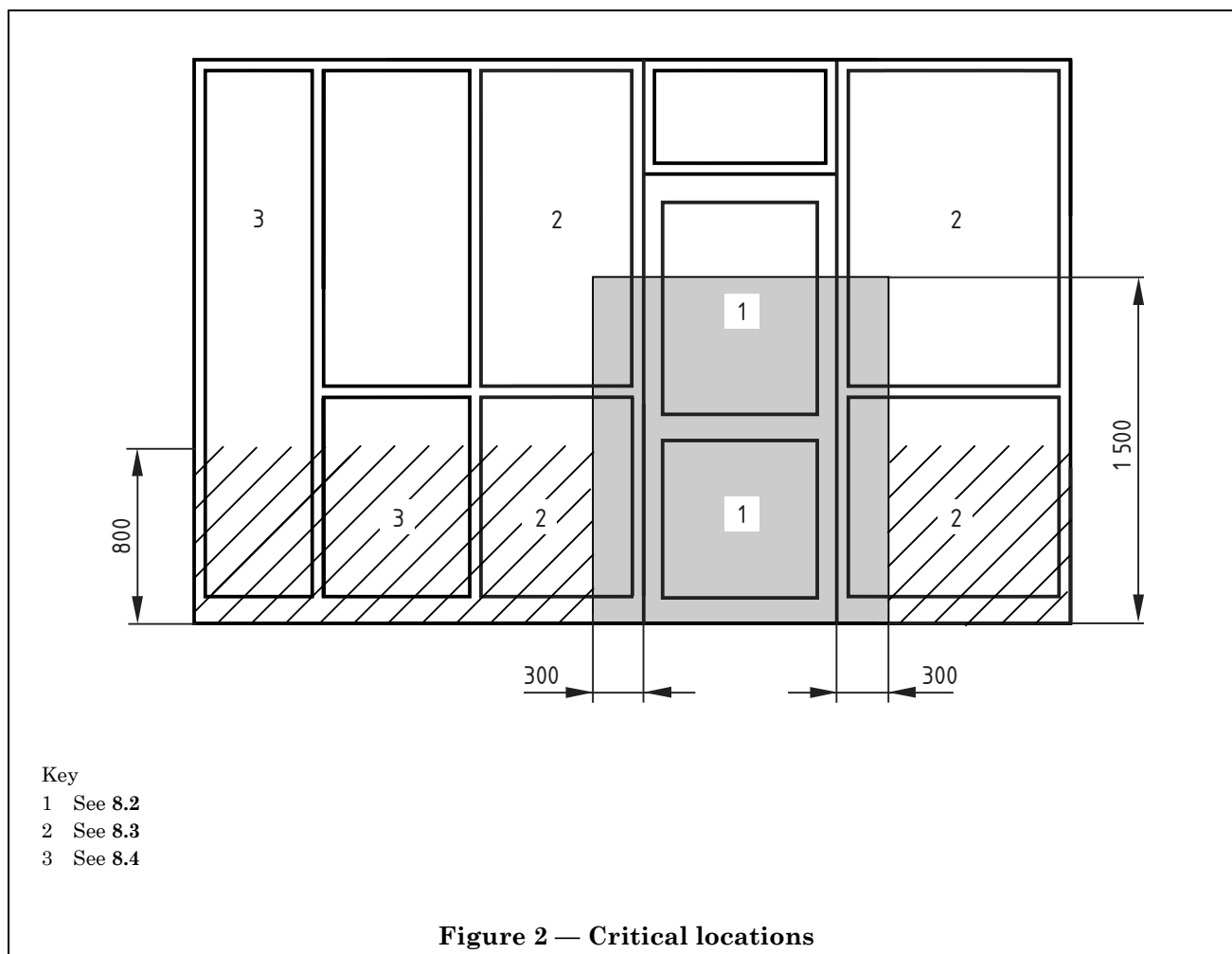
If an insulating glass unit is installed in a critical location where there is pedestrian access to both sides of the unit, then both panes of the unit should meet the recommendations laid down in this British Standard. However, in situations where pedestrian access is restricted to one side of the unit, then only the accessible side has to conform to the recommendations. An example would be where there is low level glazing in the façade of a building in storeys above the ground floor, but with no pedestrian access to the external faces of the insulating glass units.

Care should be taken to ensure that an insulating glass unit with two different pane specifications is installed the correct way round.

Care should also be taken to ensure that the glazing provides the appropriate level of guarding.

The critical locations described in 8.2, 8.3 and 8.4 are shown in Figure 2.

Dimensions in millimetres



## 8.2 Doors

NOTE For mirror glazed doors, door side panels and low level glazed areas, see 8.5.

For glazing wholly, or partly, within 1 500 mm from floor or ground level, the glazing should conform to Table 1. However, if the smaller dimension of the pane is 250 mm or less and its area is 0.5 m<sup>2</sup> or less then glass not classified in accordance with BS EN 12600 may be used, provided that its nominal thickness in accordance with BS 952-1 is not less than 6 mm.

## 8.3 Door side panels

NOTE For mirror glazed doors, door side panels and low level glazed areas, see 8.5.

For glazing wholly, or partly, within 300 mm from the edge of a door and wholly, or partly, within 1 500 mm from floor or ground level, the glazing should conform to Table 1. However, if the smaller dimension of the pane is 250 mm or less and its area is 0.5 m<sup>2</sup> or less then glass not classified in accordance with BS EN 12600 may be used, provided that its nominal thickness in accordance with BS 952-1 is not less than 6 mm.

#### 8.4 Low level glazed areas

NOTE For mirror glazed doors, door side panels and low level glazed areas, see 8.5.

For glazing wholly, or partly, within 800 mm from floor or ground level, excluding doors dealt with in 8.2 and door side panels dealt with in 8.3 the glazing should conform to Table 1, unless either:

- a) the smaller dimension of the pane is 250 mm or less and its area is 0.5 m<sup>2</sup> or less, in which case glass not classified in accordance with BS EN 12600 may be used, provided that its nominal thickness in accordance with BS 952-1 is not less than 6 mm; or
- b) the pane forms part of a frontage of a building that is not a dwelling, in which case glass recommended in Table 2 may be used.

**Table 2 — Nominal thickness and maximum pane size dimensions for glass not classified in accordance with BS EN 12600 that may be used in specific critical locations with four edges supported (see 8.4 b))**

Dimensions in millimetres

Nominal thickness <sup>a</sup>	Maximum pane size dimensions
8	1 100 × 1 100
10	2 250 × 2 250
12	4 500 × 4 500
15 or thicker	no limits

<sup>a</sup> See BS 952-1.

#### 8.5 Mirror glazed doors, door side panels and low level glazed areas

For mirror glazing in the critical locations in 8.2, 8.3 and 8.4, that is mirror glazed doors, door side panels and low level glazed areas, the following should apply.

- a) Mirror glazing should conform to the recommendation made in Table 1 unless the pane is fully backed by a solid material, e.g. a wall, or a timber cupboard or wardrobe door, and is securely fixed to it so that there is a space of not more than 25 mm between the glazing and the backing material. In the latter case glass not classified in accordance with BS EN 12600 may be used.
- b) In the case of unbacked mirror glazing (see 3.9), accessible from one side only, the pane should conform to the recommendations made in Table 1.
- c) In the case of unbacked mirror glazing, accessible from both sides, e.g. in a cupboard or wardrobe designed in such a way that a person can remain inside when the door is closed, the pane should conform to 8.2, 8.3 or 8.4 as appropriate.

#### 8.6 Protective barriers

Glazing in protective barriers should conform to BS 6180. Safety glass should be classified in accordance with BS EN 12600 and safety plastics should conform to BS 6206.

#### 8.7 Bathing areas

Any glazing forming part of a bath or shower screen, or located adjacent to, or surrounding, a bath, swimming pool, or other associated wet area, constitutes a potential danger because of the possibility of a person slipping on a wet surface. Such glazing should consist of a material recommended for bathing areas as specified in Table 1, unless this British Standard recommends that material of a higher class should be used (see 8.2 and 8.3).

Glazing for prefabricated shower enclosures and shower cabinets should also conform to BS EN 14428.

### 8.8 Areas of special risk

In all those parts of buildings where the planned activity generates a special risk, for example gymnasias or other places for energetic activities, all glazing should conform to Table 1. In these situations, the designer or specifier should consider if a higher class is required, or if additional safeguards such as protective rails or screens, or manifestation, are necessary.

## 9 Permanent screen protection

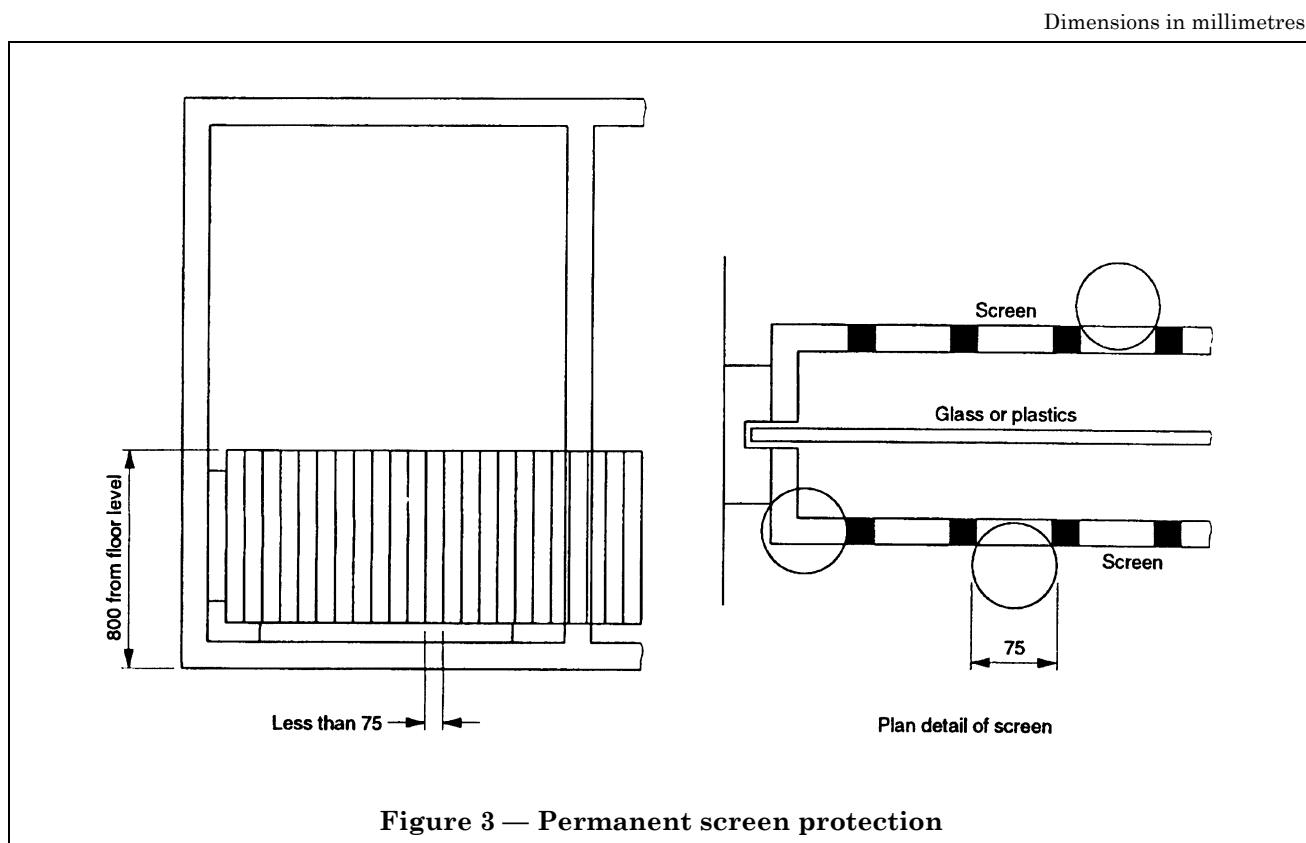
If glazing in a critical location is protected by a suitably designed protective screen system the recommendations in Clause 8 do not apply. Nevertheless, it should conform to other relevant clauses of BS 6262.

The protective screen should:

- a) be independent of the glazing;
- b) prevent a sphere of 75 mm diameter from touching the glazing (see Figure 3);
- c) if 900 mm or more in length, it should be sufficiently robust to sustain a centrally applied force of at least 1 350 N, (1 100 N, if less than 900 mm in length) without:
  - 1) fracturing;
  - 2) deflecting so as to impact the glass;
  - 3) permanently distorting;
  - 4) being displaced.

If the system is multi-railed, each rail should satisfy this recommendation.

NOTE For the purposes of this standard an easily climbable screen with, for example, horizontal rails is not considered a suitable protective screen system.



## 10 Manifestation

Under some conditions of lighting, large areas of transparent glazing used to subdivide a building might not be readily apparent. The risk of human impact with this glazing is greatest if adjacent areas within or immediately outside the building are at the same level so that a person might reasonably assume unimpeded passage from one part to another.

If the presence of such glazing is not sufficiently well indicated by mullions, transoms, door frames, large door handles, stall risers or other components of the glazing system, it should be made apparent by some form of manifestation.

The manifestation employed should be of a sufficient size to make it immediately obvious. It can take the form of broken or solid lines, patterns or company logos, positioned between 600 mm and 1 500 mm above floor level at appropriate horizontal intervals. The manifestation should preferably be permanent, e.g. etching of the glazing, but alternatively, if applied materials are used they should be durable and not easily removed.

NOTE The manifestation might be required to meet other regulatory requirements (see BS 6262-1). Attention is drawn to the Building Regulations for England and Wales, [1] the Building Regulations for England and Wales Approved Documents M and N [5] [6], The Building Regulations (Northern Ireland) [2] and The Building Standards (Scotland) Regulations [3].

## 11 Specialist glazing products

Some specialist glazing products are difficult to classify in accordance with either BS EN 12600 or BS 6206 but the following recommendations should apply.

Leaded and copper lights, made in the traditional manner from small panes varying in size and thickness, within a framework of lead or copper comes, should be acceptable in the locations described in **8.2**, **8.3** and **8.4**.

Glass blocks and glass lens lights should be acceptable for use in the locations described in **8.2**, **8.3**, **8.4**, **8.7** and **8.8**.

Bent (curved), profiled and corrugated glass or plastics, or glass or plastics bullions, should be acceptable if a flat pane of the same type, thickness and quality of material conforms to the recommendations given in Clause 8.

## **Annex A (informative)**

### **Breakage characteristics**

#### **A.1 General**

To assist designers and specifiers in selecting the most appropriate glazing, the breakage characteristics are described here.

The breakage characteristics are given as the mode of breakage in BS EN 12600. **A.2** gives the definition of the three types of breakage in accordance with BS EN 12600. **A.3** to **A.9** give specific descriptions of the breakage characteristics of commonly used glasses together with their mode of breakage classification.

#### **A.2 Mode of breakage**

Descriptions of the following modes of breakage have been taken from BS EN 12600:2002, **6.3**.

Type A: numerous cracks appear forming separate fragments with sharp edges, some of which are large. This is the mode of breakage typical of annealed glass.

Type B: numerous cracks appear, but the fragments hold together and do not separate. This is the mode of breakage typical of laminated glass.

Type C: disintegration occurs, leading to a large number of small particles that are relatively harmless. This is the mode of breakage typical of toughened glass.

#### **A.3 Annealed glass (excluding wired glass)**

Annealed glass is the basic glass (e.g. float, patterned) from which the other glasses referred to in this annex are processed. If annealed glass is broken and pieces are displaced, the resulting glass edges will be sharp. Annealed glass has a mode of breakage classification of Type A.

#### **A.4 Wired glass**

If wired glass is broken and the pieces are held together by the wires, penetration is unlikely. However, if the wires are broken and the material is penetrated, the resulting glass edges will be sharp. Wired glass has a mode of breakage classification of Type B.

#### **A.5 Laminated glass**

The breakage characteristics will be similar to those of the types of glass used in its construction, but the pieces will remain substantially adhered to the interlayer. Depending on the type and thickness of the interlayer, the broken glass is unlikely to be penetrated. Laminated glass has a mode of breakage classification of Type B.

#### **A.6 Toughened (tempered) glass**

Thermally toughened soda-lime glass is difficult to break, but if broken it fragments into small, relatively harmless pieces. Toughened (tempered) glass has a mode of breakage classification of Type C.

#### **A.7 Heat strengthened glass**

If heat strengthened glass is broken the resulting edges will be sharp. Heat strengthened glass has a mode of breakage classification of Type A.

#### **A.8 Plastics covered annealed glass**

This is annealed glass covered with specially formulated organic materials (e.g. adhesive-backed polymeric filmed glass) intended to hold the glass together after breakage. If broken it will be difficult to penetrate provided that the covering is applied in accordance with the manufacturer's recommendations. Plastics covered annealed glass has a mode of breakage classification of Type B.

#### **A.9 Plastics glazing sheet material**

The breakage characteristics of plastics glazing sheet materials vary because of differences in their chemical composition, or structure. Two or more different materials may be combined to provide composite products. The three types of plastics glazing sheet materials most commonly used for external and internal glazing are as follows.

- a) Polycarbonate (PC). This can be supplied either in solid sheet or multi-wall sheet. It is very difficult to break.
- b) Polymethyl methacrylate (PMMA). Commonly referred to as acrylic, this material can be supplied either in solid sheet or multi-wall sheet, both of which are difficult to break. However, if broken, it does not generally result in sharp fragments.
- c) Polyvinyl chloride (PVCu). Commonly referred to as rigid PVC or unplasticized PVC, this material can be supplied in solid sheet form. It is difficult to break and, if broken, does not generally result in sharp fragments.

Information about the breakage characteristics of other plastics glazing sheet materials should be obtained from the manufacturer.



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## Bibliography

### Standards publications

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BS 5516-1:2004, *Patent glazing and sloping glazing for buildings — Part 1: Code of practice for design and installation of sloping and vertical patent glazing.*

BS 5516-2:2004, *Patent glazing and sloping glazing for buildings — Part 2: Code of practice for sloping glazing.*

BS 7376:2004, *Inclusion of glass in the construction of tables or trolleys — Specification.*

BS 8000-7:1990, *Workmanship on building sites — Part 7: Code of practice for glazing.*

BS EN 1279-1:2004, *Glass in building — Insulating glass units — Part 1: Generalities, dimensional tolerances and rules for the system description.*

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