

Windows, doors and rooflights —

Part 4: Code of practice for the installation of replacement windows and doorsets in dwellings

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- Aluminium Window Association
- Association of Builders' Hardware Manufacturers
- British Plastics Federation
- British Precast Concrete Federation Ltd.
- British Wood Preserving Association
- British Woodworking Federation
- Building Employers' Confederation
- Consumer Policy Committee of BSI
- Department of the Environment (Building Research Establishment)
- Department of the Environment (Property Services Agency)
- Flat Glass Manufacturers' Association
- Glass and Glazing Federation
- Guild of Architectural Ironmongers
- Health and Safety Executive
- Institution of Fire Engineers
- London Housing Consortium
- National House-Building Council
- Royal Institute of British Architects
- Steel Window Association
- Timber Research and Development Association

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Foreword

This Part of BS 8213 has been prepared under the direction of the Elements and Components (of Diverse Materials) for Buildings Standards Policy Committee. This is the first Part of BS 8213 to be published.

It is intended that Parts 1 to 3 of BS 8213 will form a revision of Parts 1 to 3 of CP 153 “*Windows and rooflights*”, which was published in four Parts between 1969 and 1972 as follows:

- *Part 1:1969, Cleaning and safety.*
- *Part 2:1970, Durability and maintenance.*
- *Part 3:1972, Sound insulation.*
- *Part 4:1972, Fire hazards associated with glazing in buildings (withdrawn).*

The responsibility for Part 4 of CP 153 was transferred to the Fire Standards Committee in 1981: it was withdrawn in April 1986 and replaced by Part 3 of PD 6512 in March 1987.

This Part of BS 8213 is a new code of practice providing information which was not given in CP 153.

Relevant British Standards specifying the products to which this code refers are as follows:

BS 644-1, BS 644-2¹⁾ and BS 644-3¹⁾, BS 1245, BS 1285, BS 1567, BS 4787-1, BS 4873, BS 5286, and BS 6510.

A new British Standard specification for plastics windows is in preparation.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

¹⁾ Declared obsolescent.

Section 1. General

1 Scope

This Part of BS 8213 applies to dwellings only and gives recommendations for the installation, into existing structural openings, of windows and doorsets (with hinged or sliding leaves), manufactured from metal, plastics or wood, and supplied with or without surrounds.

It also applies to windows and doorsets fitted into existing wood surrounds or into existing wood windows converted into surrounds.

It does not apply to secondary sashes, neither does it include the materials, finishes, quality, workmanship and design of the windows, doorsets or surrounds, nor their suitability of style and performance.

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

2 Definitions

For the purposes of this Part of BS 8213 the definitions given in BS 6100-1.0, BS 6100-1.3.5 and BS 6100-1.5.1 and BS 6100-1.6, BS 6100-4.4 and BS 6100-5.1 apply, together with the following.

NOTE The definition given in 2.2 is given here for convenience and is identical with that given in BS 6100-1.0.

2.1

doorset

an external assembly that includes a door frame, the requisite number of door leaves and any ancillary components

2.2

dwelling

unit of housing usually intended for a single family

2.3

fixing

any item that is used to secure separate members of a window assembly to each other, to secure an item of hardware to a window member, or to secure a completed window assembly into the structure of a building

2.4

secondary sash

a glazed panel or panels, sometimes with an outer frame, either fitted into the structural opening or applied to the existing window, so that the secondary sash and existing window form a double or multiple glazing system

2.5

shim

a packing piece used in gaps at fixing points to obtain rigid fixing and prevent distortion

2.6

structural opening

the opening in a wall into which the window or door is to be installed

2.7

surround

a supplementary frame around a window or door frame

Section 2. Preliminaries

3 Appraisal of the condition of the building

When measuring the structural openings for the quotation the condition of the structure should be examined, without removing any materials or external or internal finishes, and enquiries should be made about the visual appearance at other times of the year. If there are or have been cracks, signs of movement, or dampness, which might indicate possible faults in the structure, all parties concerned should be informed and the responsibility for any remedial work necessary before the installation of the replacement windows should be agreed. Similarly, responsibility for the removal of existing excessive paint, cement, sealant, or other unsightly contaminants, which are exposed after the replacement of any frame, should be agreed before the work starts.

Any specification involved should give adequate information regarding the building's structural condition. If a considerable number of windows or doorsets are to be replaced it is advisable to remove one to examine the structure in detail. When it is assessed that an existing window or door frame is load bearing, the replacement should also be designed to be load bearing. In all cases where there is doubt either the advice of a structural engineer or other competent person should be obtained or it should be assumed that the replacement needs to be load bearing.

4 Method of installation

All windows and doorsets to be used in the installation should comply with all appropriate British Standard specifications as listed in the foreword and be suitable for the location and use for which they are intended. Proper provision should be made to ensure that windows, door frames and surrounds coupled on site are watertight. Having selected the frame material and type, the specifier or installer should consider the most suitable method of installation.

Windows and doorsets of all materials can be fixed directly into the structural opening as described in clause 9.

Windows and doorsets can also be fixed with new surrounds into the structural openings as described in clause 10 or they can be fixed into existing surrounds, or into existing wood windows converted into surrounds, as described in clause 11.

The conversion of wood windows into surrounds, or the re-use of the existing surrounds, eliminates some making good, but it is only possible when the existing surrounds or outer frames are in good condition and of suitable profile.

Section 3. Work prior to installation

5 Measuring for production purposes

Sufficient vertical, horizontal and diagonal measurements should be taken of each structural opening to establish its size and squareness. It may be necessary to remove some of the internal finish or external rendering in order to obtain accurate measurements. Assumptions should not be made as to the actual size of the structural openings, and each should be measured even when they appear to be identical.

Original drawings of the building should only be taken as a dimensional guide because experience shows that buildings are not always erected in accordance with their drawings, and movements of the structure may also have occurred and substantially altered dimensions, squareness and verticality.

NOTE 1 It is possible, particularly in multi-storey buildings, that some structural openings may be inaccessible at the time of the measurement survey. In these cases it would be preferable to delay manufacture of the units in question until access and measurement are possible. However, this may be costly and in these cases the dimensions to be used for production may have to be agreed on the basis of existing drawings or other available data.

Necessary allowances should be made for the perimeter joint and any intermediate joints between the units when determining the work sizes of the windows, doorsets or surrounds (see also 9.4.5).

Window frames made of uPVC exhibit more thermal movement than window frames of other materials. To accommodate these changes the following deductions from the measured aperture are advised for white frames.

Frame dimension	Up to 1.5 m	1.5 m to 3.0 m	3 m to 4.5 m
Deduction	10 mm	12 mm	15 mm

NOTE 2 For colours other than white reference should be made to the supplier of the uPVC window frames.

6 Planning the work

6.1 Working in occupied buildings

The installation of replacement windows and doorsets is often undertaken while the dwelling is occupied. For this reason it is important that the specifier and the installer plan the work so that the occupants will be subjected to the minimum inconvenience.

6.2 Safety and security

Work should always be planned so that structural openings, windows and doorsets are left secure and weathertight overnight.

Provisions should be made for the safe, regular disposal of all dangerous debris, particularly broken glass.

On buildings of more than two storeys, access becomes an important item when planning the work. When selecting whether to use permanent scaffolding, a mobile tower, or other means of access, the safety and security of the operatives, the occupants, and the passers-by, during the period of installation, should be considered.

7 Transportation, storage and protection of products

7.1 Transportation

Windows, doorsets and surrounds should be loaded and secured so that they do not become damaged during transportation. Composite windows, and doorsets assembled completely or in part, need special care because of their size and the risk of overstressing their coupling members and joints. All opening lights should be firmly closed, or secured if the window fasteners are to be fitted later.

Factory glazed windows and doorsets should, wherever possible, be placed vertically on the vehicle to avoid glass breakage. Plastics and fully finished windows, doorsets and surrounds, i.e. those with the complete surface coating applied prior to transportation, should be separated to avoid damage in transit.

Windows, doorsets and surrounds should be handled with care and never dragged along the ground. Preferably they should be kept vertical or near vertical during unloading. Racking and twisting should be avoided because of the possible damage to the frame joints and, if pre-glazed, to the glass and glazing joints. Generally, it is preferable to lift windows from the sides, or from points at the head near the corners, to avoid distortion of the horizontal head members. This is particularly necessary where windows are glazed with insulating glass units, because of the extra weight of the glass, and with unglazed large-span plastics window frames.

7.2 Storage and protection²⁾

7.2.1 Storage

Unless installation is delayed, for example due to inclement weather, it may not be necessary to make provision for site storage.

²⁾ For more detailed advice on storage and protection the manufacturer and/or appropriate Trade Association should be consulted.