

Windows, doors and rooflights —

**Part 1: Code of practice for safety in use
and during cleaning of windows and
doors (including guidance on cleaning
materials and methods)**

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Elements and Components (of Diverse Materials) for Buildings Standards Policy Committee (ECB/-) to Technical Committee ECB/15, upon which the following bodies were represented:

- Aluminium Window Association
- Association of Builders' Hardware Manufacturers
- British Plastics Federation
- British Wood Preserving and Damp-Proofing Association
- British Woodworking Federation
- Building Employers' Confederation
- Construction Fixings Association
- Consumer Policy Committee of BSI
- Department of Health
- 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
- Local Authority Organizations
- London Housing Consortium
- National House-Building Council
- Royal Institute of British Architects
- Steel Window Association
- Timber Research and Development Association

This British Standard, having been prepared under the direction of the Elements and Components Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 28 June 1991

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The following BSI references relate to the work on this standard:
Committee reference ECB/15
Draft for comment 89/13815 DC

ISBN 0 580 19719 0

Amendments issued since publication

Amd. No.	Date	Comments

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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and Components (of Diverse Materials) for Buildings Standards Policy Committee and supersedes CP 153-1:1969 which is withdrawn.

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- *Part 1: 1969: Cleaning and safety (withdrawn);*
- *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- *Part 4: 1972: Fire hazards associated with glazing in buildings (withdrawn).*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 is the second Part of BS 8213 to be published. BS 8213-4 is a code of practice for the installation of replacement windows and doorsets in dwellings and provides information that was not given in CP 153.

The principal changes in this revision of CP 153-1 include more detailed references to legislation (the Health and Safety at Work etc. Act 1974 and the Factories Act 1961) and the addition of a graded analysis of the risks involved in cleaning the outside of windows from the inside. The revision generally reflects the changes in techniques and the development of safety equipment etc. that have occurred since 1969 and reference is made to all the relevant standards that have been published since then.

The recommendations in this code are directed towards architects, surveyors and window designers, public authorities, glazing contractors, professional window cleaners, building owners and users and householders.

The code does not apply to some historic buildings and, where under the Town and Country Planning Acts normal standards cannot be met, special provisions for cleaning and safety will have to be provided.

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 and ii, pages 1 to 12, 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.

Section 1. General

1 Scope

This Part of BS 8213 gives recommendations on the design, construction and maintenance of windows and doors for safety in use and during cleaning. It includes recommendations on safe working practices to safeguard those who clean them, whether professional cleaners or householders, and recommendations on opening and on the operating heights of window controls to safeguard occupants and passers-by.

The type and thickness of vertical glazing to be used in risk areas is recommended in BS 6262.

Guidance on cleaning materials and methods is given in appendix A.

NOTE 1 Recommendations for the maintenance of wood and metal window frames are given in CP 153-2.

NOTE 2 Recommendations for the maintenance and cleaning of patent glazing are given in BS 5516 and recommendations for the cleaning of metals and alloys is included in BS 6270-3.

NOTE 3 Performance requirements for the operation and strength of windows are specified in BS 6375-2.

NOTE 4 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 apply, together with the following.

2.1

glazing

the glass or plastics sheet material to be cleaned

2.2

vertical glazing

glazing which is either truly vertical or sloping at up to 15° either side of true vertical

2.3

competent person

a person able to perform a particular duty having sufficient practical and theoretical knowledge and actual experience of the work in question to enable hazards associated with the work being undertaken to be recognized

3 Legislation and regulations

Attention is drawn to the provisions of the following Acts and Regulations:

Factories Act 1961

Health and Safety at Work etc. Act 1974

Health and Safety at Work (NI) Order 1976

Construction (General provisions) Regulations 1961

The Construction (Working Places) Regulations 1966

NOTE 1 The Health and Safety at Work etc. Act 1974 applies to all engaged in window cleaning (other than servants in domestic households) undertaken at work and also imposes general duties of a wide nature on employers and employees etc.

NOTE 2 See HSE Guidance Note GS/25 for further information.

NOTE 3 Although excluded from the provisions of the Health and Safety at Work etc. Act 1974 it is recommended that domestic servants in private households should follow the guidance in this code.

NOTE 4 The duties imposed by the Construction Regulations are sometimes of a higher standard than the general duties imposed under the Health and Safety at Work etc. Act 1974. See in particular Regulations 35 and 36 of the Construction (Working Places) Regulations 1966.

Section 2. Safety in use

4 Aspects of safety influencing design

Important safety aspects which should be considered in the design of windows and doors are as follows:

- a) the risk of a person accidentally falling through an open window (see clause 5).
- b) risks associated with the external projection of open windows and doors (see 5.2.4).
- c) risks of accidents with doors in public areas (see 5.2.5).
- d) the rigidity of the framing and its fixings to the structure (see note to clause 6)
- e) the ease of operation of opening lights (see 6.1).
- f) the selection of appropriate hardware at suitable heights for the operation of windows (see 6.1 and 6.2).
- g) the suitability of the glazing in respect of strength if it is likely to be subjected to impact loads (see clause 7)
- h) the suitability of frames and the hardware if cleaning is to be carried out from inside (see clause 10)

NOTE Whether cleaning from inside or outside, access needs to be considered (see section 3).

- i) the suitability of window and door configurations (particularly replacement windows) as a means of escape in the event of fire (see BS 5588-1).

5 Safety of open windows and doors

5.1 High rise housing

5.1.1 Anxiety about window accidents is usually centred on the risk of people falling out and concerns, particularly, the risks posed to young children and old people. With some people a feeling of vertigo is induced by looking down a sheer wall face. On such facades, unless there are external balconies which give the necessary protection (see Figure 1) the opening lights of windows in high rise housing should be guarded by internal safety rails. (See 10.4).

Safety rails will ordinarily not be useable with vertically pivoted windows, as they would prevent the reversal of the windows for cleaning. With horizontally pivoted windows it may be possible to fix the reversed window to the safety rail for cleaning purposes. In general, safety rails should not be detachable to permit windows to be opened.

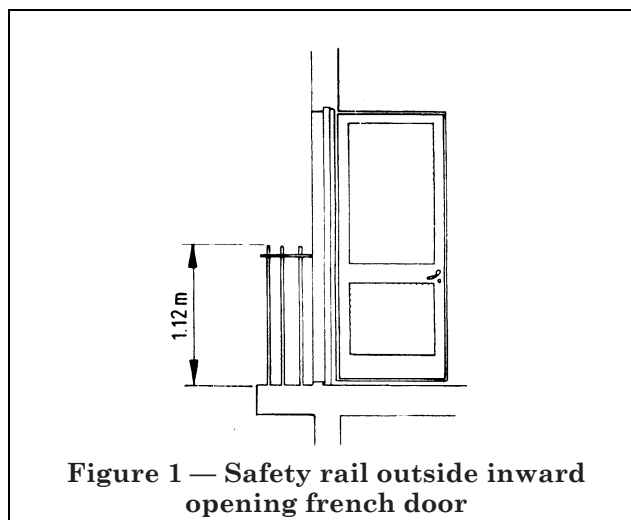


Figure 1 — Safety rail outside inward opening french door

5.1.2 Any window opening exposed below a safety rail should if in a risk area be protected by additional internal rails, placed so that there is no clear opening wider than 100 mm in its smaller dimension. On the second floor and above, those portions of fixed lights coming below 1.1 m from finished floor level should be suitably guarded.

5.1.3 Where there is a risk of people and especially of children falling out, windows above the third floor, and preferably those above the ground floor, should have the initial opening restricted to 100 mm by means which cannot readily be misused. Beyond 100 mm there should be some further control of the window's movement to prevent violent swinging and slamming in high winds. In these conditions friction hinges and pivots may not be adequate for this purpose. Large side hung opening lights in exposed places may need stays at both top and bottom to prevent distortion by wind. The safety bolts or catches used for locking pivoted windows in their reversed positions should be positive in action and not liable to give way under pressure.

5.2 All buildings

5.2.1 General

Consideration should be given to the possible need for restricted opening devices, guard rails etc. in multi-storey buildings other than high rise housing (see 5.1).