



States of Jersey
Planning and Environment Committee

The Building Bye-Laws (Jersey) 1997. Code of Practice

TECHNICAL GUIDANCE DOCUMENT

Part 10 Glazing – Safety and Protection

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Use of Guidance

THE TECHNICAL GUIDANCE DOCUMENTS

The Building Bye-Laws (Jersey) 1997, which come into operation on the twentieth day of February 1997, replace the Building Bye-Laws (Jersey) 1960 and consolidate all subsequent revisions to those Bye-Laws. This document is one of a series that has been approved by the Committee as practical guidance on meeting the requirements of the second schedule and Bye-Law 7 of the Building Bye-Laws (Jersey) 1997.

At the back of this document is a list of those documents currently published which have been approved for the purpose of the Building Bye-Laws.

The detailed provisions contained in the Technical Guidance Documents are intended to provide guidance for some of the more common building situations. In other circumstances, alternative ways of demonstrating compliance with the requirements may be appropriate.

Evidence supporting compliance

There is no obligation to adopt any particular solution contained in a Technical Guidance Document if you prefer to meet the relevant requirement in some other way. However, should a contravention of a requirement be alleged then, if you have followed the guidance in the relevant Technical Guidance Documents, that will be evidence tending to show that you have complied with the Bye-Laws. If you have not followed the guidance then that will be evidence tending to show that you have not complied. It will then be for you to demonstrate by other means that you have satisfied the requirement.

Other requirements

The guidance contained in a Technical Guidance Documents relates only to the particular requirements of the Bye-Laws which that document addresses. The building work will also have to comply with the requirements of any other relevant paragraphs in the second schedule to the Bye-Laws. There are Technical Guidance Documents which give guidance on each of the other requirements in the second schedule and on Bye-Law 7.

LIMITATION ON REQUIREMENTS

In accordance with Bye-Law 8, the requirements in parts 1, 2, 3, 4, 5, 6, 7, 9 and 10 of the second schedule to the Building Bye-Laws do not require anything to be done except for the purpose of securing reasonable standards of health and safety for persons in or about the building.

MATERIALS AND WORKMANSHIP

Any building work which is subject to requirements imposed by the second schedule to the Building Bye-Laws should, in accordance with Bye-Law 7, be carried out with proper materials and in a workmanlike manner.

You may show that you have complied with Bye-Law 7 in a number of ways, for example by the appropriate use of a product bearing an EC mark in accordance with the Construction Products Directive (89/106/EEC), or by following an appropriate technical specification (as defined in that Directive), a British Standard, a British Board of Agrément Certificate, or an alternative national technical specification of any member state of the European Community which, in use, is equivalent. You will find further guidance in the Technical Guidance Document supporting Bye-Law 7 on materials and workmanship.

Technical specifications

Building Bye-Laws are made for specific purposes; health and safety, energy conservation and the welfare and convenience of disabled people. Standards and technical approvals are relevant guidance to the extent that they relate to these considerations. However, they may also address other aspects of performance such as serviceability or aspects which although they relate to health and safety are not covered by the Bye-Laws.

When a Technical Guidance Document makes reference to a named standard, the relevant version of the standard is the one listed at the end of the publication. However, if this version of the standard has been revised or updated by the issuing standards body, the new version may be used as a source of guidance provided it continues to address the relevant requirements of the Bye-Laws.

The Requirement

This Technical Guidance Document which takes effect on 20 February 1997, deals with the following requirements from Part 10 of the second schedule to the Building Bye-Laws (Jersey) 1997.

<i>Requirement</i>	<i>Limits on application</i>
Safety and protection.	
31.	Glazing with which a person is likely to come into contact while moving about a building shall— (a) be shielded or protected from impact; (b) resist impact without breaking; or (c) if broken on impact, break in a way which is unlikely to cause injury.
32.	In the case of any building which is not a dwelling, transparent glazing with which a person is likely to collide while in passage in or about the building shall— (a) be adequately shielded; or (b) be provided with features which make it noticeable.

Note: Attention is drawn to the following:

Glazing which is installed in a location where there was none previously as part of the erection, extension or material alteration of a building, other than an exempt building, is building work and is subject to the Requirements of part 10. Other glazing, e.g., replacement glazing is not, but its supply may be subject to consumer protection legislation.

Performance

Requirement 31

0.1 In the view of the Committee requirement 31 will be met by adopting, in critical locations, measures to limit the risk of sustaining cutting and piercing injuries.

0.2 The most likely locations for impacts leading to such injuries are in doors and door side panels and at low level in walls and partitions. In doors and door side panels, the risk is at its greatest between floor and shoulder level, when near to door handles and push plates: especially when normal building movement causes doors to stick. Hands, wrists and arms are particularly vulnerable. An initial impact between waist and shoulder level may be followed by a fall through the glazing, resulting in additional injury to the face and body.

0.3 In walls and partitions, away from doors, the risks are predominantly at low level. At that level, children are especially vulnerable.

0.4 Glazing in critical locations would be considered reasonably safe were its nature such that, if breakage did occur, any particles would be relatively harmless.

0.5 The requirement may also be met if the glazing is sufficiently robust to ensure that the risk of breakage is low, or if steps are taken to limit the risk of contact with the glazing.

Requirement 32

0.6 In the view of the Committee requirement 32 will be met by including in critical locations, permanent means of indicating the presence of large uninterrupted areas of transparent glazing.

0.7 The existence of large uninterrupted areas of transparent glazing represents a significant risk of injury; through collision. The risk is at its most severe between areas of a building or its surroundings which are essentially at the same level and where a person might reasonably assume direct access between locations which are separated by glazing.

0.8 In such locations, some means should be adopted to make glazing more apparent to people using the building.

Introduction

0.9 This Technical Guidance Document describes measures which may be adopted to satisfy part 10.

Section 1, on pages 5 and 6 relates to requirement 31.

Section 2, on page 7 relates to requirement 32.

Section 1

REQUIREMENT 31

Critical Locations

1.1 The following locations may be considered 'critical' in terms of safety;

- between finished floor level and 800mm above that level in internal and external walls and partitions (see Diagram 1),
- between finished floor level and 1500mm above that level in a door or in a side panel, close to either edge of the door (see diagram 1).

Reducing the risks

1.2 Glazing in critical locations should either,

- break safely, if it breaks (see paragraph 1.3), or
- be robust or in small panes (see paragraphs 1, 4, 1.5 and 1.6 and Diagrams 2 and 3), or
- be permanently protected (see paragraphs 1.7 and 1.8 and Diagram 4).

Safe breakage

1.3 Safe breakage is defined in BS 6202: 1981 *Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings*: clause 5.3, and is based on an impact test which requires the result of the impact to be limited to creating:

- a small clear opening only, with a limit to the size of the detached particles, or
- disintegration, with small detached particles, or
- breakage resulting in separate pieces that are not sharp or pointed.

In terms of safe breakage, a glazing material suitable for installation in a critical location would satisfy the test requirements of Class C of BS 6206 or, if it is installed in a door or in a door side panel and has a pane width exceeding 900mm, the test requirements of Class B of the same standard.

Robustness

1.4 Some glazing materials, such as annealed glass, gain strength through thickness; others such as polycarbonates or glass blocks are inherently strong. Some annealed glass is considered suitable for use in large areas forming fronts to shops, showrooms, offices, factories, and public buildings. Reasonable glass thickness/dimension limits for annealed glass which may be used in these locations are shown in Diagram 2 (see also paragraph 2.1).

Diagram 2 Annealed glass thickness; dimension limits

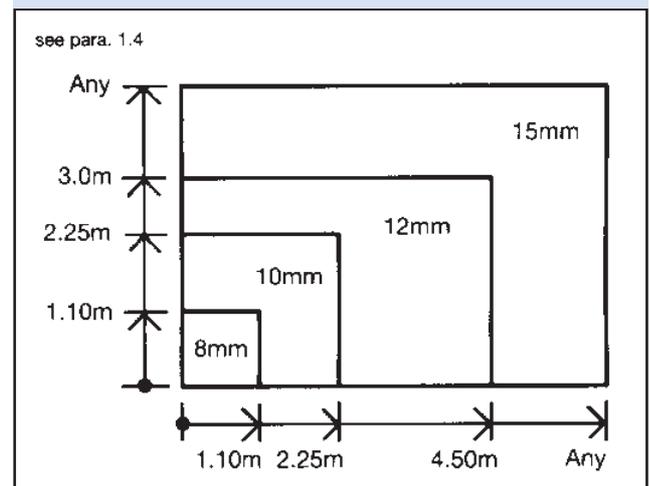
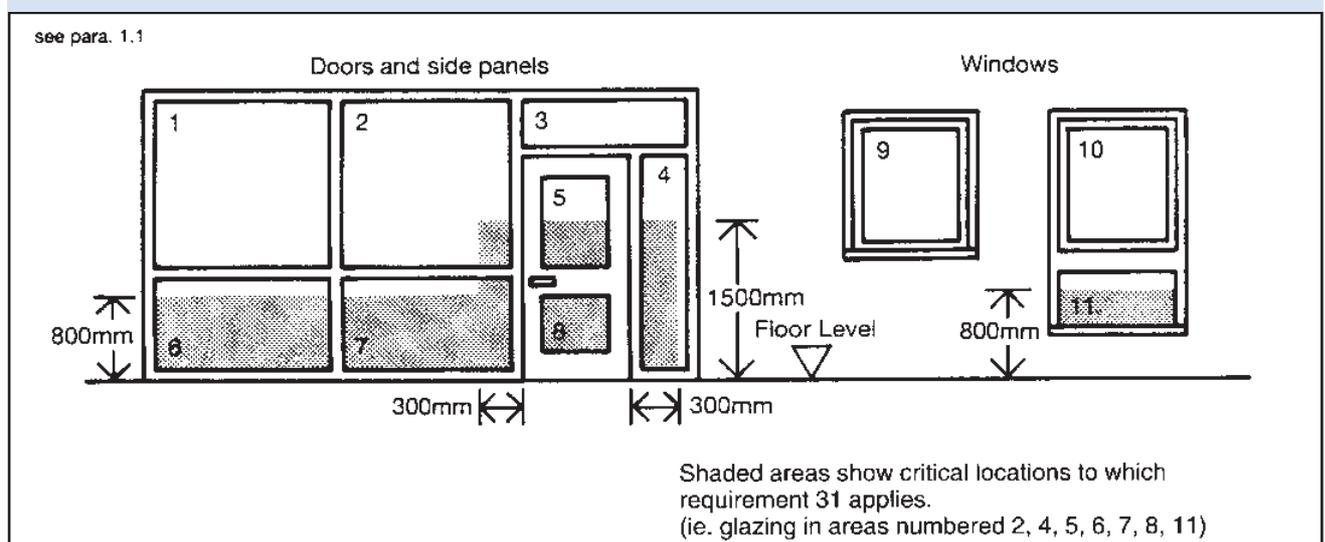


Diagram 1 Critical locations in internal walls

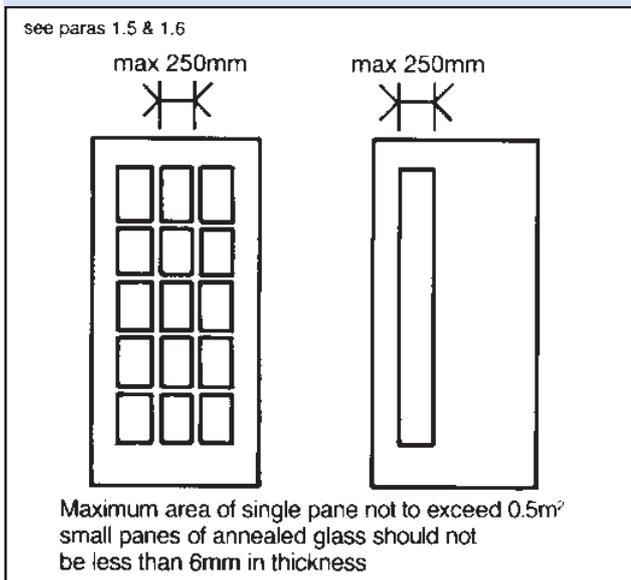


Glazing in small panes

1.5 In the context of this Technical Guidance Document, a 'small pane' may be an isolated pane, or one of a number of panes contained within glazing bars, traditional leaded lights or copper-lights.

1.6 Small panes should have a maximum width of 250mm and an area not exceeding 0.5m², each measured between glazing beads or similar fixings. Annealed glass in a small pane should not be less than 6mm nominal in thickness, except in traditional leaded or copper-lights in which 4mm glass would be

Diagram 3 Dimensions and areas of small panes



acceptable, when fire resistance was not a factor. Typical installations are shown in Diagram 3.

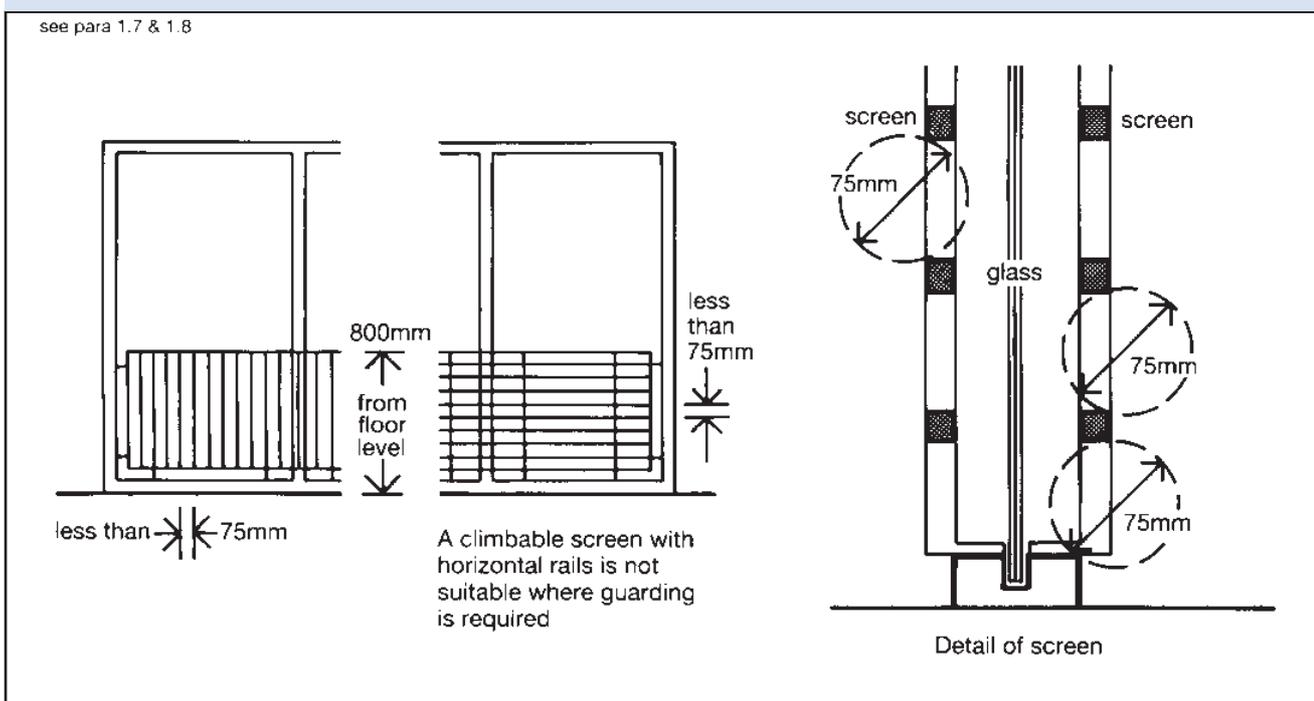
Permanent screen protection

1.7 If, as part of a design solution, glazing in a critical location is installed behind permanent screen protection, the screen should:

- prevent a sphere of 75mm from coming into contact with the glazing,
- be robust and,
- if it is intended to protect glazing that forms part of protection from falling, be difficult to climb.

1.8 Glazing in a critical location which is afforded permanent screen protection, does not, itself, need to comply with requirement 31. The principles of screen protection are shown in Diagram 4.

Diagram 4 Permanent screen protection



Section 2

REQUIREMENT 32

Critical locations

2.1 Manifestation of glazing is only necessary in critical locations in which people in passage in or about the building might not be aware of the presence of the glazing and may collide with it. 'Critical locations' include large uninterrupted areas of transparent glazing which form, or are part of, the internal or external walls and doors of shops, showrooms, offices, factories, public or other non-domestic buildings.

2.2 The risk of collision is most severe when two parts of the building, or the building and its immediate surrounds, are essentially at the

same level but separated by transparent glazing and a person might reasonably have the impression that they are able to walk from one part to the other without interruption.

Permanent manifestation of glazing

2.3 Permanent manifestation of large uninterrupted areas of transparent glazing is only necessary when other means of indicating the presence of the glazing are not used. These other means may include mullions, transoms, door framing or large pull or push handles.

2.4 Where 'manifestation' is necessary, it may take the form of broken or solid lines, patterns or company logos at appropriate heights and intervals (see Diagram 5).

2.5 Diagram 6 includes examples of a number of methods of indicating the presence of glazing.

Alternative indications of glazing

2.6 Examples of installations of glazing, which would not normally warrant 'manifestation' include:

- door height transparent glazing less than 400mm in width;
- door height transparent glazing with a rail at a height of between 600mm and 1500mm above finished ground or floor level;
- a single pane glazed door with substantial framing; or
- a single pane glazed door which is either not framed, or which has very narrow framing, but is provided with large easily seen push or pull plates or handles.

Diagram 5 Height of 'manifestation' of large areas of transparent glazing

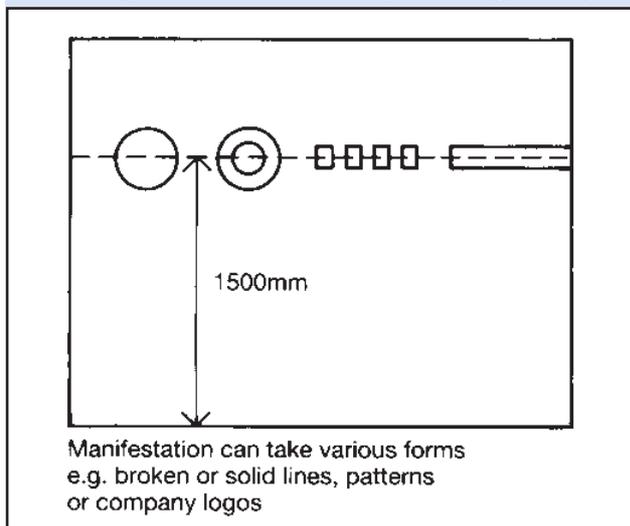
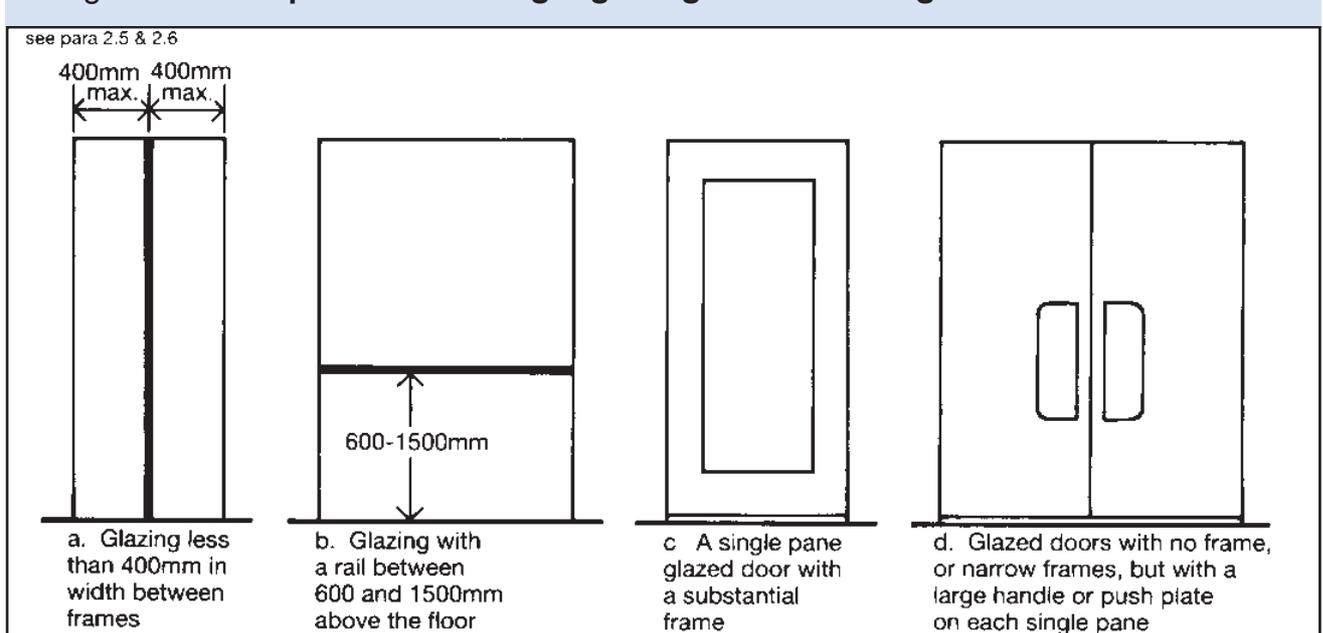


Diagram 6 Examples of door height glazing not warranting manifestation



Standards referred to

BS 6206: 1981 *Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings.*

List of codes of practice currently issued or approved by the Planning and Environment Committee for the purpose of showing compliance with the Building Bye-Laws (Jersey) 1997.

Technical Guidance Document. Part 1 Structure
Technical Guidance Document. Part 2 Fire Safety
Technical Guidance Document. Part 3 Heat Producing Appliances and Storage of Fuels
Technical Guidance Document. Part 4 Site Preparation and Resistance to Moisture
Technical Guidance Document. Part 5 Ventilation
Technical Guidance Document. Part 6 Drainage, Hygiene and Water Storage
Technical Guidance Document. Part 7 Stairs, Ramps and Protective Barriers
Technical Guidance Document. Part 8 Access and Facilities for Disabled People
Technical Guidance Document. Part 9 Resistance to the Transmission of Sound
Technical Guidance Document. Part 10 Glazing[m]Safety and Protection
Technical Guidance Document. Part 11 Conservation of Fuel and Power
Technical Guidance Document. Supporting Bye-Law 7. Materials and Workmanship