

Chapter 6.7

Doors, windows and glazing



6.7 Doors, windows and glazing

CONTENTS

	Clause	Page
DESIGN		
Design standards	D1	1
Statutory requirements	D2	1
Environmental factors	D3	1
Security	D4	1
Inservice performance	D5	2
Resistance to decay	D6	2
Glazing	D7	2
Provision of information	D8	3
MATERIALS		
Materials standards	M1	3
Timber doors and windows	M2-M4	3
Non-timber doors and windows	M5	3
Ironmongery	M6	3
Glazing	M7	4
SITWORK		
Sitework standards	S1	4
Protection against damp	S2	4
Location and fixing	S3	4
Glazing	S4-S5	5
Protection	S6	6
INDEX		6

SCOPE

This Chapter gives guidance on meeting the Technical Requirements and recommendations for doors, windows and glazing, including where coupled door and window frame assemblies are contained within a single storey.

Coupled door and window frame assemblies which are:

- one storey or more in height, or
- not contained between a structural floor and ceiling

should be designed in accordance with Chapter 6.9 'Curtain walling and cladding'.

DESIGN STANDARDS

6.7 - D1 Design shall meet the Technical Requirements

Design that follows the guidance below will be acceptable for doors, windows, and glazing.

STATUTORY REQUIREMENTS

6.7 - D2 Design shall comply with all statutory requirements

Design should be in accordance with relevant Building Regulations and other statutory requirements.

ENVIRONMENTAL FACTORS

6.7 - D3 Design and selection of doors, windows and glazing shall take account of location and planning requirements

Items to be taken into account include:

(a) noise control

Where noise levels are very high, for example near airports or motorways, it may be advisable to install sound-insulating windows, usually of special design and construction.

(b) planning requirements

Local planning authorities may impose limitations on the shape, size and choice of materials for windows and doors, for example in conservation areas.

(c) climatic conditions

Climatic conditions, especially wind speed, together with the required level of window performance (eg in relation to air tightness), may govern the size of glass panes and opening lights in exposed locations.

SECURITY

6.7 - D4 Doors, door frames, windows and locks shall be designed and specified so as to improve their resistance to unauthorised entry

Items to be taken into account include:

(a) locks to main entrance doors of dwellings (including houses, flats and maisonettes)

DWELLINGS - all

All entrance doors of individual dwellings should be fitted with one (or more) securely fixed lock and keep or multi-point locking system, which has:

- at least 1000 differs, and
- a fixing which, if burst open, would not pull out without breaking the door or its frame, and
- a hardened steel bolt or inserts to prevent sawing, and
- latch and deadlocking facility.

Locking devices fitted to entrance doors should permit emergency egress without the use of a key when the dwelling is occupied. Any glazing which, if open or

broken, would permit release of the snib by hand or arm entry should be laminated.

DWELLINGS - with an alternative means of escape via a door

Lock(s) should provide initial security by use of a latch operable with a key externally and a handle/thumb turn release internally. The full deadlocking facility should be engaged and be operable with a key externally and a handle/thumb turn release internally. Locks which comply with BS 8621, meet these requirements. External handles on multi-point locking systems should be twin or split spindle to avoid operating the latch.

Enhanced security can also be achieved by providing the facility to deadlock the internal/thumb turn when leaving the dwelling un-occupied. Locks which comply with BS 10621, meet these requirements.

DWELLINGS - opening direct to outside without an alternative means of escape via a door

The door should be held closed by use of a latch operable with a key externally and a handle/thumb turn release internally. The full deadlocking facility should be engaged and be operable with a key externally and a handle/thumb turn release internally. Locks which comply with BS 8621, meet these requirements. External handles on multi-point locking systems should be twin or split spindle to avoid operating the latch.

DWELLINGS - opening onto a communal access without an alternative means of escape

The door should be held closed either on a latch operable with a handle both internally and externally or a roller bolt so that the door cannot slam shut locking the homeowner out without a key. The full deadlocking facility should be engaged and be operable with a key externally and a handle/thumb turn release internally. Locks which comply with BS 8621, meet these requirements.

Timber or light steel frame walls, should incorporate one of the following:

- timber sheathing minimum 9mm thick, or
- expanded metal.

The material should be the full height of the door and not less than 600mm measured from the lock(s).

(b) opening limitation devices to main entrance doors

A securely fixed opening limitation device should be fitted to main entrance doors in houses and the entrance doors of individual flats and maisonettes.

In sheltered accommodation opening limitation devices should be not inhibit emergency access. Alternative methods for residents to identify and communicate

with visitors, without opening their door, should be considered in place of opening limitation devices.

(c) view outside main entrance door

There should be a means of giving a wide angle view of the area immediately outside the main entrance door of individual dwellings. Acceptable ways include:

- a through-door viewer
- clear glazing either to part of the door or a convenient window
- closed circuit camera and display, which is not linked to television sets.

(d) secondary external access doors

The door should be held closed on a latch and operable by use of a handle both internally and externally. A deadlocking facility should be operable by use of a key both internally and externally. Locks complying with BS 3621 meet these requirements. Alternatively a thumb turn may be used internally in place of key operation. Locks complying to BS 8621 meet these requirements.

In addition bolts should be fixed securely at both top and bottom of the door on the internal opening edge.

Where multi-point locking systems are used bolts may be omitted.

External sliding doors should be secured by way of multi-point locking system with a minimum of three locking points incorporating mushroom headed bolts, hookbolts or shoot bolts. Where shoot bolts are fitted they should engage into the head and sill of the door frame. An anti-lift device should also be fitted so that doors cannot be lifted from their frame from the outside.

Connections between door and/or frame components which can be easily released from outside should not be used. This includes accessible screw connections.

(e) fittings for windows

Ironmongery for windows should be supplied as follows:

- hinges and fastenings of opening lights of windows should be of a type which prevents them from being opened from the outside when in the closed position
- opening lights on all ground floor windows and others which are readily accessible from the outside may be fitted with lockable devices which cannot be released without a key
- where the windows are required by Building Regulations to have background ventilation they may be fitted with trickle ventilators or some other means of providing ventilation which is controllable and located to avoid undue draughts. Windows with 'night vent' positions are not accepted as meeting these recommendations.

6.7 Doors, windows and glazing

IN SERVICE PERFORMANCE

6.7 - D5 Doors, windows and glazing shall be designed and specified to ensure adequate performance in service

Items to be taken into account include:

(a) weather resistance

Windows and external doors exposed to wind-driven rain may need particular protection to ensure they remain weathertight.

BS 6375 contains recommendations for the classification of window components according to their resistance (under test to air and water penetration, and wind pressure). A similar classification is used by BBA for certification of windows.

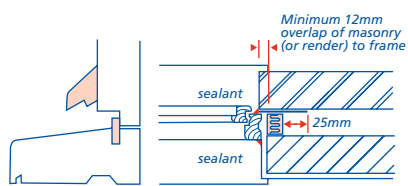
Water penetration may occur not only between frame and opening leaf or light, but also between the frame and the surrounding structure. Vertical and horizontal dpcs should be provided around the frame in accordance with Chapter 6.1 'External masonry walls' (Design and Sitework).

In Scotland, Northern Ireland and other locations of Very Severe exposure, rebated reveal construction should be sealed with an appropriate sealant.

Reference should be made to Chapter 6.1 'External Masonry Walls' Appendix 6.1-A for categories of exposure to wind driven rain.

In all locations where weathertightness is likely to be a problem, additional precautions may be needed, such as:

- setting the frame back from the facade
- fixing the frame behind a rebate in the structural opening (sometimes known as a 'check' reveal)
- fixing weather boards and water bars to external doors but ensuring threshold is accessible where appropriate



water bar and weatherboard provided for external doors 'rebated' or 'check' reveal in areas of Very Severe exposure

- building a projecting porch
- rain check grooves to inward opening external door frames
- a combination of the above.

Joists between multiple frames should be engineered as part of the manufacturer's system to ensure satisfactory in-service performance.

Coupled door and window frame assemblies one storey or more in height or not contained between a structural floor and ceiling, should be designed in accordance with Chapter 6.9 'Curtain walling and cladding'.

(b) thermal break

Where metal windows are to be used, designs should incorporate a thermal break.

(c) ventilation control

Trickle ventilation is covered in Clause D4.

Mechanical ventilation is covered in Chapter 8.1 'Internal services' (Design).

(d) fire safety

Fire resisting doors and positive self-closing devices should be fitted where required by Building Regulations.

(e) strength

Door frames and windows and their fittings should be adequate to withstand operational loads. Structural loads should be carried on lintels, beams or some other structural element. If frames are required to carry structural loads, they should be designed accordingly.

(f) resistance to movement, shrinkage and the effects of moisture

Doors and windows should be designed and selected to avoid significant distortion, such as twisting and bowing during use. Timber shrinkage should be allowed for.

To reduce twisting, doors should be hung on hinges as follows:

Type of door	Hinges
External	1½ pairs x 100mm
Fire door	1½ pairs* x 100mm
Airing or cylinder cupboard	1½ pairs x 75mm
Other internal	1 pair x 75mm

* 1 pair where rising butts are used

Window boards may be wetted by condensation. Materials other than natural timber should be moisture-resistant.

(g) emergency access

Where doors to rooms containing a bath or WC have a securing device, it should be of a type capable of being opened from the outside in an emergency.

In sheltered accommodation, additional special provisions may be needed for all door locks, limiters and other fasteners, to enable wardens to gain access to dwellings when necessary.

RESISTANCE TO DECAY

6.7 - D6 Joinery for external doors and windows shall be adequately protected against decay

The following elements of timber doors and windows should be of naturally durable timber or timber pre-treated against fungal decay:

- external door frames
- windows
- timber surrounds to metal windows
- external doors, other than flush doors.

For detailed information, reference should be made to Chapter 2.3 'Timber preservation (natural solid timber)' (each section).

GLAZING

6.7 - D7 Glass and the method of glazing shall be selected to:

(a) resist wind loads

The quality and thickness of normal window glass should be specified to suit the design wind load for the location, in accordance with BS 6262 and relevant data sheets issued by the Glass and Glazing Federation.

(b) minimise risk of injury

Where there is a high risk of accidental breakage, the glazing should be designed and selected to comply with the safety recommendations for risk areas specified in Approved Document N for England, Wales and the Isle of Man, Technical Booklet V in Northern Ireland and BS 6262 in Scotland. Where there is a particular risk, such as at door side panels, 'low level' glazing and where fully glazed panels can be mistaken for doors, toughened or laminated glass, or other materials, such as acrylic or polycarbonate, may be needed.

(c) ensure adequate performance

DRAINED AND VENTED SYSTEMS

- These systems should allow any moisture that enters the glazing channel between the frame and the edge seal of the insulating glass unit to be drained away. The system should prevent long term moisture contact with the edge seal.

A gap of at least 5mm should be provided between the frame's lower rebate and the edge seal of the insulating glass unit. Adequate drainage and ventilation should be provided by holes, slots or channels.

Insulating glass units 1m² or greater in area should have a drained and vented glazing system, whether they are factory glazed or site glazed.

Suitable systems and installations are shown in the relevant parts of BS 8000, BS 6262 and BRE Digest 453. The system should provide adequate protection of the edge seal of the insulating glass unit.

FULLY BEDDED SYSTEMS

- Factory glazed methods should be in accordance with the relevant parts of BS 8000, BS 6262 and BRE Digest 453.

Fully bedded systems (acceptable for factory glazing only) rely on no gaps being left around the perimeter of the insulating glass units. Moisture that can reach these areas will lead to the

breakdown of the edge seal.

Site glazing may incorporate fully bedded systems on the top and sides of the insulating glass unit but the rebate platform requires a drained and vented bottom bead.

INSULATING GLASS UNITS

- Insulating glass units should comply with the requirements of BS EN 1279, be CE marked and the subject of a third party certification scheme (e.g. Kitemarking).

Insulating glass units should normally have a dual seal, or single seal if of hot melt butyl, together with desiccant in at least one long and one short section of the spacer bar.

BEADS

In external situations the bottom bead should project slightly over the rebate edge, and be bedded to the rebate platform.

PROVISION OF INFORMATION

6.7 - D8 All relevant information shall be distributed to appropriate personnel

Ensure that design and specification information is issued to site supervisors and relevant specialist subcontractors and/or suppliers.

MATERIALS STANDARDS

6.7 - M1 All materials shall:

- (a) meet the Technical Requirements
- (b) take account of the design

Materials that comply with the design and the guidance below will be acceptable for doors, windows and glazing.

Joists between door and window frame assemblies should be formed with suitable materials to ensure durability and satisfactory in-service performance.

Materials for doors, windows and glazing should comply with all relevant standards, including those listed below. Where no standard exists, Technical Requirement R3 applies (see Chapter 1.1 'Introduction to the Standards and Technical Requirements').

References to British Standards and Codes of Practice include those made under the Construction Products Directive (89/106/EEC) and, in particular, appropriate European Technical Specifications approved by a European Committee for Standardisation (CEN).

TIMBER DOORS AND WINDOWS

6.7 - M2 Timber and wood-based materials shall be of the quality and dimensions required by the design

Items to be taken into account include:

(a) classification and use

All timber and wood-based materials should comply with the relevant requirements of BS EN 942 as follows:

- glazing beads - European
- window casements/sashes - 'J' classes
- all other elements - (see table 1 of BS EN 942).

In England, Wales, Northern Ireland and the Isle of Man, planted stops are not permitted on frames to external doors.

Storey-height frames should be of a section appropriate to their height and function.

External doors should be not less than 42.5mm (44mm nominal) in thickness.

Wood windows should comply with the relevant requirements of BS 644 and have a minimum rebate depth of 15mm where double glazed units are to be installed.

Medium density fibreboard for window boards should be moisture resistant grade.

(b) drying shrinkage

To minimise drying shrinkage, the moisture content of joinery, when fixed, should not exceed the following:

Joinery items	Moisture content (%)*
Windows and frames	17
Internal joinery in:	
- intermittent heating	15
- continuous heating	12
- in close proximity to a heat source	9
* on delivery, the moisture content should be within 2% either side of the values specified.	

(c) workmanship

All prefabricated items should be constructed to a good standard of workmanship, including:

- fit and construction of joints
- construction of finger joints
- glueing and laminating
- construction of moving parts
- surface finishes.

Prefabricated components should comply with the relevant parts of BS 1186 : Part 2.

(d) surface finish

Any surface finishing defects should be such that they would not be apparent with a matt paint finish, whether the surface is to be stained or painted, gloss or matt.

6.7 - M3 Timber for doors and windows shall be of a naturally durable timber species or preservative treated and primed

Items to be taken into account include:

(a) preservation

Non-durable timbers used externally should be treated, see Chapter 2.3 'Timber preservation (natural solid timber)' (each section) for details.

Preservative treatment is required for the following:

- external door frames
- windows
- timber surrounds to metal windows
- external doors, other than flush doors.

(b) priming

Material to be painted should be primed before fixing. For further guidance on preparing elements for painting, see Chapter 8.5 'Painting and decorating' (each section).

(c) staining

Material to be stained should have the first coat applied before delivery to site.

6.7 - M4 Glazing compounds and timber stains shall be compatible

Compatibility of glazing, sealants and finishes should be checked with relevant manufacturers.

NON-TIMBER DOORS AND WINDOWS

6.7 - M5 Doors and windows of materials other than timber shall be in accordance with appropriate standards

Relevant standards include the following:

BS 4873	Specification for aluminium alloy windows
BS 6510	Specification for steel windows, window boards and doors
BS 7412	Plastics windows made from PVC-U extruded hollow profiles
BS 7413	White PVC-U extruded hollow profiles with heat welded corner joints for plastics windows: materials type A
BS 7414	White PVC-U extruded hollow profiles with heat welded corner joints for plastics windows: materials type B.

Third party certification is also required for PVC-U windows. Windows which are Kitemarked will meet with the Performance Standard.

Doors and windows to which the above British Standards do not apply should have been assessed in accordance with Technical Requirement R3.

IRONMONGERY

6.7 - M6 Ironmongery shall be of the type and material required by the design

Items to be taken into account include:

(a) relevant standards

Ironmongery should be provided in accordance with the design and specification. For critical functions, materials should comply with appropriate standards, including the following:

6.7 Doors, windows and glazing

BS EN 1935	Building hardware - single axis hinges - Requirements and test methods
BS 3621	Thief resistant lock assembly. Key egress
BS 8621	Thief resistant lock assembly. Keyless egress
BS 10621	Thief resistant dual mode lock assembly
BS 4951	Specification for builders' hardware: lock and latch furniture (doors)
BS 5872	Specification for locks and latches for doors in buildings
BS 6459	Door closers.

(b) security

Security items for doors and windows are contained in Clause D4.

(c) door hinges

The requirements for door hinges are contained in Clause D5(f).

GLAZING

6.7 - M7 Glazing shall be as required by the design

(a) relevant standards

Insulating glass units and glazing materials should comply with appropriate British Standards, including the following:

BS 5516	Code of Practice for patent glazing
BS 6262	Code of Practice for glazing of buildings
BS EN 1279	Glass in buildings - insulating glass units.

(b) materials

Glazing components should be compatible with the frame finishes. Manufacturers' recommendations should be taken into account. Materials from different manufacturers should not be used together unless both have agreed in writing.

Linseed oil based putty should never be used for the installation of laminated glass or insulating glass units.

(c) glass

Glass used in insulating glass units for windows and doors should comply with appropriate British Standards including the following:

- Annealed glass - BS EN 572
- Laminated glass - BS EN 14449
- Toughened glass - BS EN 12150
- Wired glass - BS EN 572
- Low-e coated glasses, including both hard and soft coated - BS EN 1096.

(d) safety and security

The glass supplier should provide documentation to confirm the properties of the various glasses used and conformance with the appropriate British Standards.

Permanent marking of safety glass (including glazed shower/bath screens) is required.

Glazing materials should be compatible with the required levels of safety and security. The requirements for critical locations with a high risk of accidental breakage should comply with the safety requirements of Approved Document N in England, Wales and the Isle of Man, Technical Booklet V in Northern Ireland and BS 6262 in Scotland.

SITework STANDARDS

6.7 - S1 All sitework shall:

- (a) meet the Technical Requirements
- (b) take account of the design
- (c) follow established good practice and workmanship

Sitework that complies with the design and the guidance below will be acceptable for doors, windows and glazing.

PROTECTION AGAINST DAMP

6.7 - S2 Door and window components shall, where necessary, be adequately protected against damp

Items to be taken into account include:

(a) priming

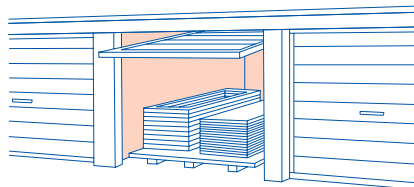
Material to be painted should be primed before fixing. Material to be stained should have the first coat applied before delivery to site. Any material delivered untreated should be treated promptly.

Neither primer nor the first coat prevent joinery from taking in moisture.

(b) storage

When joinery is stored on site, precautions should include:

- avoiding wetting during unloading
- stacking external joinery on bearers off the ground and covering with waterproof material
- storing internal joinery in a weather-protected condition.



Joinery which is not properly stored or protected may not meet Technical Requirement R3.

LOCATION AND FIXING

6.7 - S3 Doors and windows shall be correctly located and securely fixed

Items to be taken into account include:

(a) weathertightness

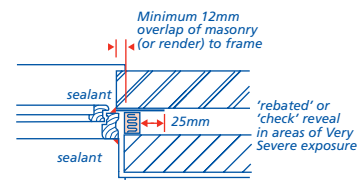
Doors and windows should be installed correctly so they perform satisfactorily in use.

Dpcs should be correctly installed.

The dpc should extend approximately 25mm into the cavity. If a thick block is used to close the cavity and form the reveal, a wider dpc will be required.

Vertical dpcs should extend continuously to the full height of the frame.

In Scotland, Northern Ireland and areas of Very Severe exposure in England, Wales and the Isle of Man, 'check' reveals should be used. Additionally, an appropriate sealant is required between doors and windows and masonry.



Joists between multiple door and window frame assemblies should be part of an engineered system and formed using suitable materials in accordance with the manufacturer's recommendations.

(b) fixing

Window frames and linings should be fixed solidly, level and plumb and should be either:

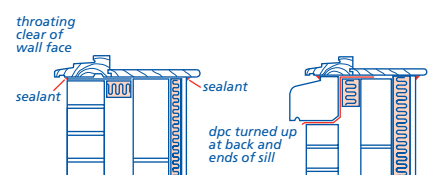
- secured by door/window cramps, or
- plugged and screwed.

Fixings should be not more than 600mm apart and not more than 150mm from top or bottom. Alternative locations and fixings are acceptable as long as they provide the same structural stability.

When driving wedges or other fixings, frames or other components should not be distorted.

Frames and linings should fit tightly into openings and be blocked or packed out at fixing points, where necessary.

Frames for external elements should be located in openings so that the head of the frame is protected by the lintel, and throatings in sill members are not obstructed by the wall face.

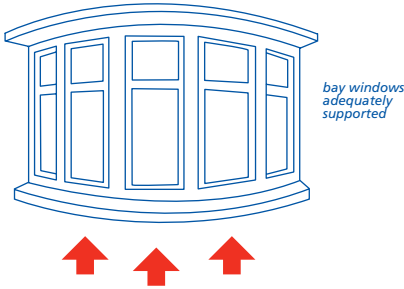


In Scotland, Northern Ireland and areas of Very Severe exposure in England, Wales and the Isle of Man, it is not acceptable to fix window frames in the outer leaf of external walls.

(c) bay windows

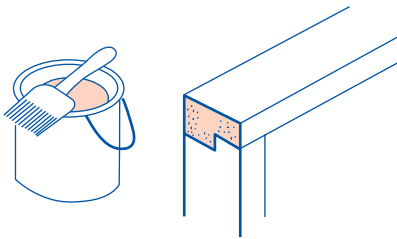
To prevent sagging and bowing, bay and bow type windows should be adequately supported and secured to the structure to prevent casements becoming twisted.

Bay windows should be properly linked to dpcs at reveals.



(d) cut ends

Where pre-treated joinery is cut or adjusted on site, the affected surfaces should be re-treated with two flood brush coats of appropriate preservative.



(e) window boards

The top surface of window boards should be flat and level. Boards should be fixed close to the frame and adequately secured against twist and other movement, particularly any back slope towards the frame.

Medium density fibreboard should be moisture resistant grade.

(f) hanging doors and opening lights

Opening lights and door leaves should hang square within the frame or lining and fit neatly with minimum gaps, subject to the requirements of effective weatherstripping. Doors to bathrooms and WCs with mechanical ventilation should be hung with a gap at the bottom or be fitted with a ventilation grille.

Where a standard flush door is reduced in height, the bottom rail should be replaced if necessary. The leading edges of doors should be protected with timber lipping, where necessary.

(g) general ironmongery

Where required, hinges and other ironmongery should be housed neatly flush with the surface.

The full complement of matching screws should be provided and properly screwed home.

Locks should not be fitted in mortices too tightly and keyholes should be aligned and locks should turn easily. The clearance between a door handle and a door stop should be at least 25mm.

(h) door hinges

To reduce twisting, doors should be hung on hinges as follows:

Type of door	Hinges
External	1½ pairs x 100mm
Fire door	1½ pairs* x 100mm
Airing or cylinder cupboard	1½ pairs x 75mm
Other internal	1 pair x 75mm

* 1 pair where rising butts are used

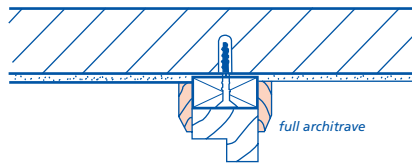
(i) security

Security items for doors and windows are contained in Clause D4.

(j) workmanship

Internal door frames and linings should be of the correct widths to match the wall or partition thickness, including finish.

Frames and linings should be blocked off walls, wherever possible, to allow for full architraves.



All timber trim should be:

- sufficiently wide to mask joints, and
- fixed so as to minimise movement and shrinkage.

Architraves should be:

- parallel to frame and lining arrises
- accurately mitred or scribed to fit tightly and neatly
- fixed with an equal margin to each frame member
- fixed securely together with linings to prevent curling.

Nails should be punched below the surface of the timber and holes stopped. Nails should not be driven home with the hammer head. Damage should be avoided where easing is necessary. Any damage should be made good.

(k) finish upon completion of work

Work should be left in a clean state and brought to an appropriate level of finish for other trades.

Finishing trades should not be relied upon to correct untidy work.

GLAZING

6.7 - S4 Glass and glazing shall be installed upon delivery or shall be adequately stored and protected until required

Glass and insulating glass units should be inspected for visual defects and defects which could lead to premature failure.

Often, defects are caused by:

- water accumulating between sheets, which may cause surfaces to become marked, and
- edge damage or scratching.

6.7 - S5 Glazing shall be carried out in accordance with relevant standards

Items to be taken into account include:

(a) size of insulating glass units/sheets

Sufficient space should be provided between the glass edge and the frame to allow for thermal expansion of the glass. A gap of 3mm is recommended, except for drained systems where at least 5mm is required for drainage at the bottom bead. Insulating glass units should not be cut or punctured in any way on site.

When cutting single sheets of glass or plastics for windows, an allowance should be made for thermal movement of the pane, taking into account:

- the material being used, and
- the size of the pane.

This allowance is especially important when window rebates are shallow, allowing limited tolerance for expansion of the glazing.

(b) rebates

Before glazing, rebates should:

- have been primed (for timber frames),
- be rigid and true, and
- be of the correct size for the glazing.

Insulating glass units should be properly protected by the frame from sunlight. The spacer bar of the insulating glass unit should always be below the level of the frame's sightline.

Setting and location blocks should be of a suitable resilient material. In drained and ventilated frames the drainage channels in the rebate should be free from obstructions that prevent effective drainage. The dimensions of holes and slots should be checked to ensure that effective drainage can occur.

(c) bead glazing

Beads and linings should be used for:

- all internal glazing
- other locations where shock absorption properties are required.

Beads should be used:

- where doors or windows are to be finished with water-borne stains

6.7 Doors, windows and glazing

- where fully bedded systems are used to install insulating glass units
- where glazing takes place on site, the bottom bead should be drained and vented.

Beads should be fixed at not more than 150mm centres.

(d) glazing compounds

All materials should be compatible and used in accordance with the manufacturer's recommendations. Materials from different manufacturers should not be used together unless both have agreed in writing.

(e) insulating glass units

Unless factory glazed, insulating glass units should be installed in accordance with the design. In timber frames where solid bedding methods are to be used on site, the bottom bead should be drained and vented.

Insulating glass units and any accompanying documentation should

be checked to ensure that they comply with the design. The insulating glass units should carry a CE mark to BS EN 1279 and have a third party assessment certificate such as the BSI Kitemark. The glass type, gas filling, edge seal type and dimensions should be checked against the documentation and the insulating glass unit itself.

(f) doors and windows of materials other than wood

Where doors and windows of materials other than timber are delivered to the site unglazed, the glazing should be carried out in strict accordance with the manufacturer's instructions.

Appropriate fixing and sealing systems should include:

- distance pieces, unless load bearing tapes are used
- setting blocks
- location blocks where required
- appropriate beads
- glazing compounds, sealants, gaskets and/or capping.

PROTECTION

6.7 - S6 Completed work shall be free from damage

Keep internal doors covered with polyethylene or original wrapping.

Door frames and linings should be protected with timber strips or plywood to at least 1m above skirting level. Thresholds and window sills should be covered. Scaffolding and walkways should be kept away from frames.

Joinery should be protected from paint splashes and other damage.

All temporary coverings should be removed after all other work has been completed, before handover.

INDEX

A		G		S	
Aluminium doors and windows	3	Glazing	2, 3, 5	Secondary external access doors	1
B		Glazing compounds	5	Security	1, 3, 4
Bay windows	4	I		Steel doors and windows	3
C		Ironmongery	3, 4	Storage	4
Compatibility	3	L		Strength	2
D		Locks	1, 3	T	
Door hinges	2, 5	M		Timber doors and windows	3
Drained and vented systems	2	Main entrance doors	1	V	
Durability	2	P		Ventilation control	2
E		Performance	1, 2	W	
Emergency access	2	Preservation	2, 3, 4	Weather resistance	1
Environmental factors	1	Priming	3, 4	Weathertightness	1, 4
Escape windows	1	Protection	4, 5	Wind loads	2
F		PVC-U doors and windows	3	Workmanship	3, 4
Finish	5	R			
Fire safety	2	Rebates	5		
Fixing	4				
Flats and maisonettes	1				
Fully bedded systems	2				