

FoDDC Building Control Guidance for Replacement of external windows and doors The Building Regulations 2010

1.0 Dwellings

1.1 Planning permission & listed building consent.

Planning permission is not normally required to replace external windows or doors in an existing dwelling, however roof windows may require planning permission. If the property is a Listed Building then Listed Building consent may be required. An Article 4 direction removing the ability of windows to be replaced in the High Street in Newnham on Severn without first obtaining planning permission also exists. For advice on the above, please contact the duty planning officer on 01594 810000

1.2 The Building Regulations 2010

Approved Document B: Volume 1: Fire safety in dwelling houses (2006 edition with 2010 & 2013 amendments);

Please refer fully to the relevant Approved Document.

Replacement windows (excludes repairs)

The replacement window opening should be sized to provide at least the same potential for means of escape as the window it replaces, or where the original window is larger than necessary for purposes of means of escape, the window opening could be reduced down to the minimum specified in this guidance for means of escape windows.

Means of escape windows and external doors

Means of escape windows to be fitted with proprietary hinges to open the window to the minimum required clear width of 450mm. Escape windows must have minimum clear opening casement dimensions of 0.33m² (typically 450mm wide x 750mm high), with the opening located between 800-1100mm above floor level to all bedrooms and habitable rooms at first floor level and inner habitable rooms on the ground floor level. (roof window openings may be acceptable 600mm above floor level subject to approval by building control)

Windows above the ground floor storey and within 800mm of floor level are to be provided with containment/ guarding/ proprietary catches which should be removable (child proof) in the event of a fire. Where an escape window cannot be achieved, direct access to a protected stairs (or protected route to inner rooms) is acceptable in compliance with guidance details above for 3 storey buildings and ADB1par 2.6 (a) or (b).

Windows should be designed to remain in the open position whilst making an escape, Locks (with or without removable keys) and stays may be fitted to escape windows, subject to the stay being fitted with a release catch which is child resistant. Cavity barriers should be provided around windows where necessary and the window should also comply with the requirements of Parts L and N in this guidance.

Approved Document F: Ventilation (2010 edition with further 2010 amendments): Please refer fully to the relevant Approved Document.

Purge (natural) ventilation

Purge (natural) ventilation to be provided to all habitable rooms equal to 1/20th (5%) floor area. The 1/20th applies where the external windows/doors open more than 30 degrees and is increased to 1/10th (10%) of the floor area where the windows opens between 15 - 30 degrees. Window openings which open less than 15 degrees is not suitable for purge ventilation and alternative ventilation details are required as detailed below (in compliance section 5 and Appendix B of ADF1). Purge ventilation openings to habitable rooms to be typically located 1.75m above floor level. The area of external windows, roof windows and doors should not exceed 25% of the usable internal floor area otherwise SAP calculations may be required from a suitably qualified person to confirm design flexibility. Unprotected openings (glazed window and door openings) should not exceed the permitted areas in relation to a boundary in compliance with Part B of this guidance.

Background ventilation

Background ventilation to be provided equivalent to 8000mm² to habitable rooms and 2500mm² to wet rooms via operable hit and miss vents into frames (or two stage security catches fitted to operable windows if agreed with building control). Fans and background vents fitted in the same room should be a minimum of 0.5m apart.

Approved Document L1B: Conservation of fuel and power in existing dwellings (2010 edition with further 2010 & 2011 amendments):

Please refer fully to the relevant Approved Document.

New external glazing

External glazing insulation details to comply with U-values for external windows, doors and roof lights in compliance with paragraphs 4.19- 4.22 and Table 1 of ADL1B and guidance tables as follows: (Note: All external doors, windows, roof lights etc to be factory draft stripped)

Table 1: U-value requirements for external windows and doors including roof windows. See Table 1 of ADL1B for full details

Fitting	Insulation standard U-value not worse than:
Windows, roof window or roof light	1.6 (or Window energy rating (WER) as Band C of par 4.22 of ADL1B)
Doors with more than 50% glazing	1.8
Other doors	1.8
Replacement windows/doors	As above or 1.2 centre pane- if external appearance of facade or character of the building is to be maintained

Table 2: U-values for double glazing

Pilkington Glass	Outer pane	Cavity/spacer/gas	Inner pane	U-value
IGU	Optifloat	16mm air filled	K-Glass	1.7
Energikare	Optiwhite	16mm argon filled with aluminium spacer bar	K-Glass	1.5
Classic			K-Glass OW	
Energikare	Optiwhite	16mm argon filled with warm edge spacer bar	K-Glass	1.5
Classic			K-Glass OW	

Table 3: U-values for triple glazing- Pilkington EnergiKare glazing system

	Cavity	Middle pane	Cavity	Inner pane	U-value
Optiwhite	12mm argon	K Glass T	12mm Argon	K-Glass	1.0
Optiwhite	16mm argon	K Glass T	16mm Argon	K-Glass	0.8
Optiwhite	12mm argon	K Glass OWT	12mm Argon	K-Glass OW	1.0
Optiwhite	16mm argon	K Glass OWT	16mm Argon	K-Glass OW	0.8
Optiwhite	12mm Krypton	K Glass OWT	12mm Krypton	K-Glass OW	0.7

Closing around window and door openings

Checked rebates should be constructed to window/door reveals or alternatively a proprietary finned insulated closers should be used. Checked rebates are where the outer skin masonry/skin projects across the inner skin by at least 25mm, the cavity is closed by an insulated closer and the window or door is fully sealed with mastic or similar externally.

Sealing and draught proofing measures

All external door and window frames, etc, should be sealed both internally and externally with proprietary sealing products such as proprietary waterproof mastic to ensure water and air tightness.

Approved Document K4: Protection against impact with glazing (2013 edition - Replaces Approved Document N) Please refer fully to Section K4 of Approved Document K

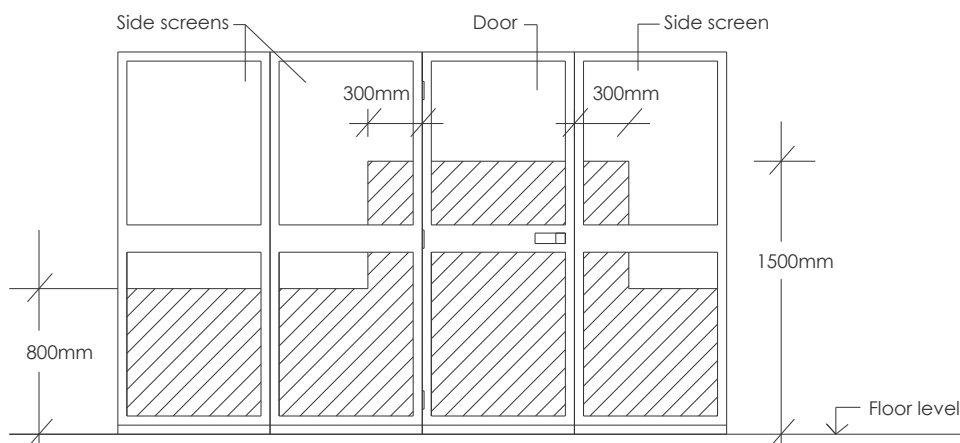
Glazing in critical locations

Doors and adjacent sidelights/windows in critical locations i.e. within 1500mm of floor/ground level and 300mm of doors and windows within 800mm of floor/ground as detailed in the guidance diagram below to comply with one of the following:

1. **Safety glass** in accordance with BS EN 12600 and BS 6206 (to ensure it breaks safely)
2. **Annealed glass** in accordance with Diagram 5.2 of ADK (or **polycarbonate or glass blocks** fixed in accordance with manufacturer's details suitable for size of openings)
3. **Small panes of glass** should not exceed 0.5m² in area and should have one dimension smaller than 250mm measured between glazing beads. Glass should be annealed and not less than 6mm thick. See Diagram 5.3 of ADK for full details

Guidance Diagram: Critical locations for use of safety glass in doors/side screens and windows. See Diagram 5.1 of ADK for full details

KEY



Guidance for the replacement of external windows and doors

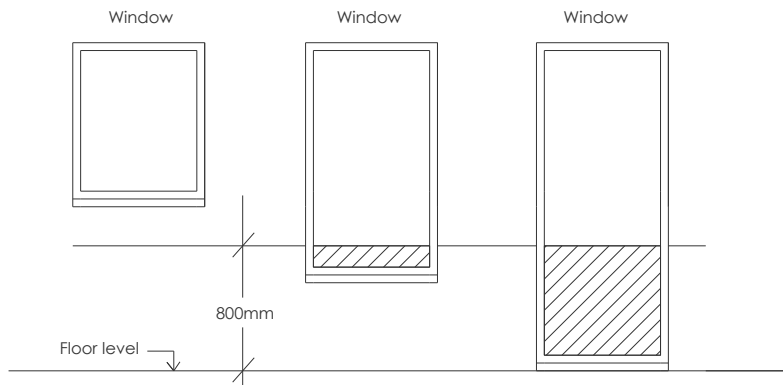


Diagram notes: 1. Where safety glazing is required in part of an opening as indicated by hatched lines in the above guidance diagram- that complete pane must be in safety glass. 2. Glass thickness must be suitable for dimension limits and opening sizes in accordance with glass manufacturer's details. 3. Glazing to be installed in accordance with manufacturer's details.

Marking of safety glass

Safety glazing to have clear and indelible markings on each piece of safety glazing within critical locations with the following information: name/ trade mark of the manufacturer/ merchant/ installer, standard the glass complies to and classification in accordance with BS EN 12600

Approved Document - Regulation 7: Materials and workmanship (2013 edition).

Please refer fully to Approved Document - Regulation 7

Materials and workmanship

All materials used for a specific purpose should be assessed for suitability using the following aids:

- British Standards or European Standards (or other acceptable national and international technical specifications and technical approvals)
- Product Certification Schemes (Kite marks)
- Quality Assurance Schemes
- British Board of Agreement Certificates (BBA)
- CE marking under the Construction Products Regulations
- CE marking under other EU Directives and Regulations
- Local Authority National Type Approvals (System Approval Certification)
- In certain circumstances, materials (and workmanship) can be assessed by past experience, for example a building already in use- providing it is capable of performing a function for which it was intended- subject to building control approval.

All materials must be fixed in strict accordance with manufacturer's printed details.

Workmanship should be in strict accordance with Regulation 7 and BS 8000: Workmanship on Building Sites: should be in compliance with Parts: 1 to 16. Where materials, products and workmanship are not fully specified or described, they are to be 'fit for purpose' stated or inferred and in accordance with recognized best practice. Testing to be carried out if required by building control to ensure workmanship is appropriate.

1.3 Fees, application forms and advice

Are available on our web site for down loading at: www.fdean.gov.uk. For advice please contact the building control surveyor for your area on 01594 810000

2. Non-dwellings

2.1. Planning Permission & Listed Building Consent.

Planning permission may be required to replace or add new external windows, doors or roof windows in a commercial building if the appearance of the building is materially altered by the works. If the property concerned is a Listed Building then Listed Building Consent may also be required. For advice, please contact the duty planning officer on 01594 810000

2.2 The Building Regulations 2010

Approved Document B: Volume 2: Fire safety in dwelling houses (2006 edition with 2007, 2010 & 2013 amendments);

Please refer fully to the relevant Approved Document.

As for dwellings above- please note that means of escape windows may not be required where there is a protected stairs/route in the commercial building- please contact building control for advice.

Approved Document F: Ventilation (2010 edition with further 2010 amendments): Please refer fully to the relevant Approved Document.

As for dwellings above- please note that where there is a mechanical ventilation system (with fresh air inlet and mechanical extract) minimum window opening sizes may not apply- please contact building control for advice

Approved Document L2B: Conservation of fuel and power in existing dwellings other than dwellings (2010 edition with further 2010 & 2011 amendments) Please refer fully to the relevant Approved Document.

New external glazing

External glazing insulation details to comply with U-values for external windows, doors and roof lights in compliance with paragraphs 4.22- 4.28 and Table3 of ADL2B and guidance tables as follows: (Note: All external doors, windows, roof lights etc to be factory draft stripped)

Table 4: U-value requirements for external windows and doors including roof windows. See Table 3 of ADL2B for full details

Fitting	Insulation standard U-value (W/m².k) not worse than:
Windows, roof window or roof light	1.8 for the whole unit
Windows, roof window or roof light That are essentially domestic in character	1.6 (or Window energy rating (WER) as Band C of par 4.22 of ADL1B)
Plastic roof light	1.8
Curtain walling	See par 4.28 of ADL2B for full details
Pedestrian doors with more than 50% of its internal face area glazed	1.8 for the whole unit
High usage entrance doors for people	3.5
Vehicle access and similar large doors	1.5
Other doors	1.8

Closing around window and door openings

Checked rebates should be constructed to window/door reveals or alternatively a proprietary finned insulated closers should be used. Checked rebates are where the outer skin masonry/skin projects across the inner skin by at least 25mm, the cavity is closed by an insulated closer and the window or door is fully sealed with mastic or similar externally.

Sealing and draught proofing measures

All external door and window frames, etc, should be sealed both internally and externally with proprietary sealing products such as proprietary waterproof mastic to ensure water and air tightness.

Approved Document K: Protection from falling, collision & impact (2013 edition - Replaces Approved Document N)

K4: Protection against impact with glazing- as for dwellings above

Please refer fully to Section K4 of Approved Document K

K5: Additional provisions for glazing in buildings other than dwellings

Please refer fully to Section K5 of Approved Document K

Additional provisions (requirements) may be applicable in certain circumstances as follows:

- Protection from collision with open windows (see Section 6 of Approved Document K5.1)
- Manifestation of glazing (see Section 7 of Approved Document K5.2)
- Safe opening and closing of windows etc. (see Section 8 of Approved Document K5.3)
- Safe access for cleaning windows etc. (see Section 9 of Approved Document K5.4)
- Protection against impact from & trapping by doors (see Section 10 of Approved Document K6)

Approved Document - Regulation 7: Materials and workmanship (2013 edition). Please refer fully to Approved Document - Regulation 7

Materials and workmanship

All materials used for a specific purpose should be assessed for suitability using the following aids:

- British Standards or European Standards (or other acceptable national and international technical specifications and technical approvals)
- Product Certification Schemes (Kite marks)
- Quality Assurance Schemes
- British Board of Agreement Certificates (BBA)
- CE marking under the Construction Products Regulations
- CE marking under other EU Directives and Regulations
- Local Authority National Type Approvals (System Approval Certification)
- In certain circumstances, materials (and workmanship) can be assessed by past experience, for example a building already in use- providing it is capable of performing a function for which it was intended- subject to building control approval.

All materials must be fixed in strict accordance with manufacturer's printed details.

Workmanship should be in strict accordance with Regulation 7 and BS 8000: Workmanship on Building Sites: should be in compliance with Parts: 1 to 16. Where materials, products and workmanship are not fully specified or described, they are to be 'fit for purpose' stated or inferred and in accordance with recognized best practice. Testing to be carried out if required by building control to ensure workmanship is appropriate.

2.3 Fees, application forms and advice

Are available on our web site for down loading at: www.fdean.gov.uk. For advice please contact the building control surveyor for your area on 01594 810000

Amended May 2014 (Tony Gwynne)