

L20Doors/ Shutters/ Hatches

General guidance

[1 Fire doors](#)

1 Fire Doors

For guidance on specifying fire resisting doors, see:

- BS 8214.
- TRADA Wood Information, Section 1, sheet 13.

Both the Building Regulations and BS 9999 'Code of Practice for fire safety in the design, management and use of buildings', allow doors to be designated using British and European standards.

Under British standards, testing is carried out under the relevant part of BS 476 'Fire tests on building materials and structures' and fire doors are designated 'FD' followed by the required performance (in minutes) for integrity, e.g. 'FD 30'. The suffix 'S' is added where smoke control is required, e.g. 'FD 60S'.

Fire doors tested to European standards are classified in accordance with BS EN 13501-2. In the European standards, integrity is denoted by the letter 'E', with smoke control denoted by the suffix 'S', e.g. 'E 30 S'.

Guidance notes

20, 25

Use clauses 20 and 25 for proprietary wood doors. Specify wood frames in clause 50 or 52. For wood doorsets, see clause 55.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g.

– *EXTERNAL*

– *FD 30S FIRE RESISTING AND SMOKE CONTROL*

Preservative treatment: Insert *Required* if the manufacturer's standard treatment is acceptable, otherwise give details.

Finish as delivered: Doors should be supplied primed for painting, sealed for staining or fully finished. Primers should comply with BS 7956. Insert e.g. *Prepared and primed as section M60*.

Glazing/ Infill details: Use this item to specify, e.g. shape of aperture, infill material, type of bead and method of fixing, ensuring compliance with fire resistance requirements (see clause 70). Check also for compliance with safety requirements of BS 6262-4.

Specify site glazing in section L40.

– **Manifestation:** Visual marking may be needed for glass doors or large areas of glazing in doors, see Building Regulations and BS 8300, clause 9.1.5. Insert *Not required* or provide details.

– **Beading:** Insert type of bead, whether external or internal and method of fixing.

Other requirements: Insert, e.g. *Weather seals*.

Other reference(s) cited:

NBS section M60.

Specification clauses

L20 DOORS/ SHUTTERS/ HATCHES

10 Timber procurement

- Timber (including timber for wood-based products): Obtained from well managed forests and/ or plantations in accordance with:
 - The laws governing forest management in the producer country or countries.
 - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
 - Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
 - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.

20 Wood flush doors

EXTERNAL

INTERNAL DOUBLE

FD60 FIRE RESISTING

FD30S FIRE RESISTING AND SMOKE CONTROL

- Manufacturer:

Contractor's choice

Submit proposals

- Product reference:

Contractor's choice

Submit proposals

- Facings:

Hardwood veneer

Interior grade plywood

Exterior grade plywood

Hardboard

Moulded and embossed hardboard

MDF board

Particleboard

- Lippings:

Exposed lippings to long edges

Concealed lippings to long edges

??? mm hardwood exposed lippings to long edges

??? mm hardwood lipping all round

Unlipped

- Preservative treatment:

Required

Not required

- Finish as delivered:

Full factory finish

Full paint system, as section M60

Prepared and primed, as section M60

Primer and undercoat, as section M60

Full stain system, as section M60

Basecoat stain, as section M60

Basecoat stain and first topcoat, as section M60

- Glazing/ Infill details:

Clear single glazing

Opaque single glazing

Clear fire-resisting glazing

Obscure fire-resisting glazing

Site glazed as section L40

Not applicable

- Manifestation:

Not required

20, 25

Use clauses 20 and 25 for proprietary wood doors. Specify wood frames in clause 50 or 52. For wood doorsets, see clause 55.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g.

– *EXTERNAL*

– *FD 30S FIRE RESISTING AND SMOKE CONTROL*

Preservative treatment: Insert *Required* if the manufacturer's standard treatment is acceptable, otherwise give details.

Finish as delivered: Doors should be supplied primed for painting, sealed for staining or fully finished. Primers should comply with BS 7956. Insert e.g. *Prepared and primed as section M60*.

Glazing/ Infill details: Use this item to specify, e.g. shape of aperture, infill material, type of bead and method of fixing, ensuring compliance with fire resistance requirements (see clause 70). Check also for compliance with safety requirements of BS 6262-4.

Specify site glazing in section L40.

– **Manifestation:** Visual marking may be needed for glass doors or large areas of glazing in doors, see Building Regulations and BS 8300, clause 9.1.5. Insert *Not required* or provide details.

– **Beading:** Insert type of bead, whether external or internal and method of fixing.

Other requirements: Insert, e.g. *Weather seals*.

Other reference(s) cited:

NBS section M60.

30

Use this clause for purpose made doors.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g. *TO BAPTISTRY*

Materials:

– **Species:** Select from BS EN 942, National Annex NA, or leave the choice to the Contractor and insert *Softwood as table NA1* or *Hardwood as table NA2*.

– **Appearance class:** BS EN 942 defines seven classes of timber:

- J2, J5 and J10 for clear grades of softwood or hardwood i.e. material almost clear of knots.

As drawing

– Beading:

Not required

External

Internal

- Other requirements:

None

25 Wood panelled doors

EXTERNAL

INTERNAL DOUBLE

FD60 FIRE RESISTING

FD30S FIRE RESISTING AND SMOKE CONTROL

- Manufacturer:

Contractor's choice

Submit proposals

– Product reference:

Contractor's choice

Submit proposals

- Wood species:

Hardwood

Oak

Softwood

Douglas fir

European redwood

European whitewood

- Preservative treatment:

Required

Not required

- Finish as delivered:

Full factory finish

Full paint system, as section M60

Prepared and primed, as section M60

Primer and undercoat, as section M60

Full stain system, as section M60

Basecoat stain, as section M60

Basecoat stain and first topcoat, as section M60

- Glazing/ Infill details:

Clear single glazing

Opaque single glazing

Clear fire-resisting glazing

Obscure fire-resisting glazing

Site glazed as section L40

Not applicable

– Manifestation:

Not required

As drawing

– Beading:

Not required

External

Internal

- Other requirements:

None

30 Wood doors

- Materials: Generally to BS EN 942.

– Species:

Softwood as table NA1

Douglas fir

European redwood

European whitewood

Western hemlock

Hardwood as table NA2

European birch

Iroko

European oak

– Appearance class:

J10

J20

J30

- J20 and J30 for high quality or specialized joinery.
- J40 and J50 for general purpose joinery.

Panels: Insert, e.g. *70 x 15 mm (PAR) t&g softwood boarding*.

Specify site glazing in section L40.

Assembly:

– **Adhesive:** Insert, e.g. *PVAC to BS EN 204, class D4*.

Preservative treatment: Insert, e.g. *Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life: 30 years*.

Specify water based treatments by inserting manufacturer's name and reference.

Moisture content on delivery: Insert:

13–19% for external joinery.

12–16% for unheated buildings.

9–13% for temperatures in the range 12–21°C.

6–10% for temperatures in excess of 21°C.

Finish as delivered: Doors should be supplied primed for painting, sealed for staining or fully finished. Primers should comply with BS 7956. Insert e.g. *Prepared and primed as section M60*.

Glazing/ Infill details: Use this item to specify, e.g. shape of aperture, infill material, type of bead and method of fixing, ensuring compliance with fire resistance requirements (see clause 70). Check also for compliance with safety requirements of BS 6262-4.

Specify site glazing in section L40.

– **Manifestation:** Visual marking may be needed for glass doors or large areas of glazing in doors, see Building Regulations and BS 8300 clause 9.1.5. Insert *Not required* or provide details.

– **Beading:** Insert type of bead, whether external or internal and method of fixing.

Other reference(s) cited:

BS 4787-1

BS EN 204

BS EN 314-2

BS EN 12765

WPA Industrial wood preservation. Specification and practice

NBS section M60

NBS section Z10

NBS section Z12.

45

Use this clause to specify proprietary doors to be fitted into frames specified elsewhere in this section (e.g. clause 50) or in another section (e.g. L10). Specify metal or composite doorsets in clause 55.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert location and material, e.g. *TO MAIN ENTRANCE – ALUMINIUM*

Finish as delivered: Insert, e.g.

Polyester powder coated, colour ???.

Anodized, colour/ finish ???.

Glazing/ Infill details: Use this item to specify, e.g. shape of aperture, infill material, type of bead and method of fixing, ensuring compliance with fire resistance requirements (see clause 70). Check also for compliance with safety requirements of BS 6262-4.

Specify site glazing in section L40.

– **Manifestation:** Visual marking may be needed for glass doors or large areas of glazing in doors, see Building Regulations and BS 8300 clause 9.1.5. Insert *Not required* or provide details.

– **Beading:** Insert type of bead, whether external or internal and method of fixing.

Ironmongery: List requirements or refer to an ironmongery schedule.

J40

- Panels:

Not applicable

6 mm birch faced plywood; Bonding quality to BS EN 314-2: Class 3
70 x 15 mm (PAR) t&g softwood boarding

- Assembly:

– Adhesive:

PVAC to BS EN 204, Class D4

Thermosetting resin to BS EN 12765, class C4

– Joinery workmanship: As section Z10.

– Accuracy: To BS 4787-1.

- Preservative treatment:

Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life: 30 years

- Moisture content on delivery:

13–19%

12–16%

9–13%

6–10%

- Finish as delivered:

Full paint system, as section M60

Prepared and primed, as section M60

Primer and undercoat, as section M60

Full stain system, as section M60

Basecoat stain, as section M60

Basecoat stain and first topcoat, as section M60

- Glazing/ Infill details:

Not applicable

Clear single glazing

Clear double glazing

Opaque single glazing

Clear fire-resisting glazing

Obscure fire-resisting glazing

Site glazed as section L40

– Manifestation:

Not required

As drawing

– Beading:

Not required

External

Internal

- Other requirements:

None

45 Doors

ALUMINIUM

STEEL

PVC-U

- Manufacturer:

Contractor's choice

Submit proposals

– Product reference:

Contractor's choice

Submit proposals

- Finish as delivered:

Polyester powder coated, colour ???

Anodized, colour/ finish ???

- Glazing/ Infill details:

Not applicable

Clear single glazing

Clear double glazing

Opaque single glazing

Clear fire-resisting glazing

Obscure fire-resisting glazing

Site glazed as section L40

– Manifestation:

Not required

As drawing

– Beading:

Not required

Other requirements: Insert, e.g. *XYZ Ltd anti finger trap stiles, ref 321AFT.*

Other reference(s) cited:

NBS section L40.

50

Use this clause for proprietary wood door frames.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g. – *INTERNAL*

Specify architraves in section P20 if not supplied with frame.

Preservative treatment: Insert *Required* if the manufacturer's standard treatment is acceptable. Otherwise give details.

Finish as delivered: Doors should be supplied primed for painting, sealed for staining or fully finished. Primers should comply with BS 7956. Insert e.g. *Prepared and primed as section M60.*

Fixing: Insert, e.g. *Built in with cramps as section Z20.*

Other reference(s) cited:

NBS section M60

NBS section Z20.

52

Use this clause for purpose made wood door frames. Architraves will normally be included in section P20.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g. – *FIRE RESISTING*

Materials:

– **Species:** Select from BS EN 942, National Annex NA, or leave the choice to the Contractor and insert *Softwood as table NA1* or *Hardwood as table NA2.*

– **Appearance class:** See guidance note to clause 30.

Assembly:

– **Adhesive:** Insert, e.g. *PVAC to BS EN 204, class D4.*

Preservative treatment: See guidance note to clause 30.

Moisture content/ Finish as delivered: See guidance note to clause 30.

Fixing: Insert, e.g. *Stainless steel screws and pelleting as section Z20.*

External

Internal

- Ironmongery:

As ironmongery schedule

- Other requirements:

None

50 Wood door frames

AND ARCHITRAVES

- Manufacturer:

Contractor's choice

Submit proposals

- Product reference:

Contractor's choice

Submit proposals

- Species:

Hardwood

Ash

Oak

Mahogany

Softwood

Douglas fir

European redwood

European whitewood

- Preservative treatment:

Required

Not required

- Finish as delivered:

Full factory finish

Full paint system, as section M60

Prepared and primed, as section M60

Primer and undercoat, as section M60

Full stain system, as section M60

Basecoat stain, as section M60

Basecoat stain and first topcoat, as section M60

- Perimeter seals:

EPDM weatherseal

Fire and smoke seal

Not required.

- Fixing:

Built in with cramps

Plugged and screwed

- Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb, adjacent to each hanging point and at 600 mm maximum centres.

52 Wood door frames

AND ARCHITRAVES

- Materials: Generally to BS EN 942.

- Species:

Hardwood

Ash

Oak

Mahogany

Softwood

Douglas fir

European redwood

European whitewood

- Appearance class:

J10

J20

J30

J40

- Assembly:

- Adhesive:

PVAC to BS EN 204, Class D4

Thermosetting resin to BS EN 12765, class C4

- Joinery workmanship: As section Z12.

- Preservative treatment:

Other reference(s) cited:

BS EN 204

BS EN 12765

WPA Industrial wood preservation. Specification and practice

NBS section M60

NBS section Z12.

NBS section Z20.

55

Use this clause for proprietary doorsets of wood, steel, aluminium, PVC-U, glass fibre or composite construction.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g.

*TO FRONT ENTRANCE – ALUMINIUM
– FD 60S FIRE RESISTING STEEL*

Repeat the clause for each different type of door construction.

Finish as delivered: Select from manufacturer's options, Insert, e.g.
Factory applied primer.

Glazing/ Infill details: Use this item to specify, e.g. shape of aperture, infill material, type of bead and method of fixing, ensuring compliance with fire resistance requirements (see clause 70). Check also for compliance with safety requirements of BS 6262-4.

Specify site glazing in section L40.

– **Manifestation:** Visual marking may be needed for glass doors or large areas of glazing in doors, see Building Regulations and BS 8300, clause 9.1.5. Insert *Not required* or provide details.

– **Beading:** Insert type of bead, whether external or internal and method of fixing.

Ironmongery: List components required or refer to a schedule.

Perimeter seals: Insert, e.g.

Weatherseal, ref WSF123.

Fire and smoke seal, ref FR30ss2f.

Not required.

Other requirements: Use this item to specify, e.g. side/ over panels, special thresholds, profile reinforcement.

Fixing: Seek manufacturer's advice on appropriate method of fixing to supporting construction. Insert, e.g. *Plugged and screwed to masonry as section Z20.*

Other reference(s) cited:

NBS section Z20.

Organic solvent as section Z12 and BWPDA Commodity Specification C5; Desired service life: 30 years

- Moisture content on delivery:

13-19%

12-16%

9-13%

6-10%

- Finish as delivered:

Full paint system, as section M60

Prepared and primed, as section M60

Primer and undercoat, as section M60

Full stain system, as section M60

Basecoat stain, as section M60

Basecoat stain and first topcoat, as section M60

- Perimeter seals:

Acoustic seal

EPDM weatherseal

Fire and smoke seal

Not required.

- Fixing:

Built in with cramps

Plugged and screwed

- Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb, adjacent to each hanging point and at 600 mm maximum centres.

55 Doorsets

ALUMINIUM

PVC-U

STEEL

FD30 FIRE RESISTING

FD60S FIRE RESISTING AND SMOKE CONTROL

- Manufacturer:

Contractor's choice

Submit proposals

- Product reference:

Contractor's choice

Submit proposals

- Finish as delivered:

Anodized

Galvanized

Factory applied primer

Polyester powdercoated

- Glazing/ Infill details:

Not applicable

Clear single glazing

Clear double glazing

Opaque single glazing

Clear fire-resisting glazing

Obscure fire-resisting glazing

Site glazed as section L40

- Manifestation:

Not required

As drawing

- Beading:

Not required

External

Internal

- Ironmongery:

As ironmongery schedule

- Perimeter seals:

Acoustic seal

EPDM weatherseal

Fire and smoke seal

Not required.

- Other requirements:

None

- Fixing:

Built in with cramps

Plugged and screwed

60

Use this clause for other types of doors, shutters, gates, hatches, grilles, etc. repeating and renumbering as necessary. Insert appropriate headings and requirements based on items used in previous clauses.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g. *TO GYMNASIUM – SLIDING*

65

Use this clause for doors which move in their own plane across an opening but which retract into a 'pocket' within the associated partition thickness.

See BS 8300, section 6 for recommendations relating to doors and inclusive access. Guidance covers arrangement and dimensions of doorways, including side clearance, ease of operation, threshold design, location of vision panels, differentiation of glazing, as well as visual contrast of the door, door frame, leading edge and relevant fittings.

Clause heading: Insert, e.g. *TO STUDY*

Arrangement: State, e.g. whether single or paired leaf, and whether curved or telescopic.

Door leaf: Give brief construction details where the product reference is not definitive.

– **Finish as delivered:** Select from manufacturer's options.

Specify site painting in section M60.

– **Glazing/ Infill details:** Use this item to specify, e.g. shape of aperture, infill material, type of bead and method of fixing, ensuring compliance with fire resistance requirements (see clause 70). Check also for compliance with safety requirements of BS 6262-4.

Specify site glazing in section L40.

– **Glass manifestation:** Visual marking may be needed for glass doors or large areas of glazing in doors, see Building Regulations and BS 8300, clause 9.1.5. Insert *Not required* or provide details.

Operation: Doors may be manual or power-operated.

Ironmongery: List components required or refer to a schedule.

Other requirements: Use this item to specify, e.g. jamb kits (architraves specified separately), etc.

70

Other reference(s) cited:

BS 476-22

BS EN 1634-1

BS EN 1634-3.

75

Doorset installation instructions generally give frame to wall details and specify sealing requirements. Gaps between frames and supporting construction should be within tolerances set by door/ doorset manufacturer.

80

Other reference(s) cited:

NBS section Z22.

- Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb and at 600 mm maximum centres.

60 Doors

- Manufacturer:

Contractor's choice

Submit proposals

- Product reference:

Contractor's choice

Submit proposals

65 Sliding pocket doors

- Manufacturer:

Contractor's choice

Submit proposals

- Product reference:

Contractor's choice

Submit proposals

- Arrangement:

Single leaf

Paired leaf

- Door leaf:

- Finish as delivered:

- Glazing/ Infill details:

Not applicable

Not required

As drawing ???

- Glass manifestation:

Not applicable

Not required

As drawing ???

- Operation:

Manual

- Ironmongery:

As ironmongery schedule

- Other requirements:

None

Jamb kit

70 Fire resistance

- Requirement: Specified performance to be the minimum period attained when tested for integrity in accordance with BS 476-22, BS EN 1634-1 or BS EN 1634-3.

75 Fire resisting/ smoke control doors/ doorsets

- Gaps between frames and supporting construction: Filled as necessary in accordance with door/ doorset manufacturer's instructions.

80 Sealant joints

- Sealant:
 - Manufacturer:

Contractor's choice

Submit proposals

Product reference:

Contractor's choice

Submit proposals

– Colour:

Black

Brown

Grey

White

– Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

85 Fixing ironmongery generally

- Fasteners: Supplied by ironmongery manufacturer.
 - Finish/ Corrosion resistance: To match ironmongery.
- Holes for components: No larger than required for satisfactory fit/ operation.
- Adjacent surfaces: Undamaged.
- Moving parts: Adjusted, lubricated and functioning correctly at completion.