Steel and glass *screens* and doors

Steel-framed glass screens compared, what BS 6510 covers, the safety glazing rules and what a fire-resisting screen must prove.

Compliance guidance. Rules are from Approved Document B volume 2 (2019 edition with the 2020 to 2026 amendments) and Approved Document K (2013), England, read on 6 November 2026. A fire-resisting screen is a tested or assessed system: take sizes, glass and fixings from its evidence, not from this sheet. Check current editions with your fire engineer and building control. Guidance, not legal or fire safety advice. The studio does not test or certify glazing and does not claim that it or its partner workshops supply certified systems.

AT A GLANCE

Option	Section (trade-body figures)	Glazing	Fire, only as tested
Hot-rolled steel, W20	32 mm wide, 5 mm flanges; tee bars 29 mm face or less (SWA)	Single, or double units to 18 mm	30 and 60 minutes of integrity in tested builds (SWA)
Hot-rolled steel, W30 and W40	W30 needs no coupling bars; W40 suits larger sizes (SWA)	Double units; triple to 32 mm in W40	W40 listed with W20 in fixed-light fire builds (SWA)
Thermally broken steel (W50 TB)	Narrow sightlines; U-value as low as 1.2 W/m²K (SWA)	Insulating units	Not stated
Cold-formed hollow steel	Sections typically 1.5 to 2 mm thick (GGF)	As the system	Integrity-only or insulating, 30 to 120 minutes (GGF)
Fire-resisting steel, integrity only (E)	Frames designed for fire (GGF)	Monolithic fire glass, about 5 to 6 mm (SWA builds)	E 30 or E 60; area limited in escape positions (Table B3)
Fire-resisting steel, integrity and insulation (EI)	Insulated frame with thermal separation (GGF)	Laminated intumescent or similar: thicker	30 to 120 minutes as tested (GGF)
Aluminium look-alike	Framed differently from steel (GGF)	As the system	Its own evidence only, never by analogy with steel
Stainless steel or bronze	Fabricated; no section family read	As designed	Over-clad systems exist; evidence needed (GGF)

Figures are from Steel Window Association (SWA) fact sheets (Aug 2024) and the Glass and Glazing Federation (GGF) guide (Issue 4, 2018), for the systems they describe; none is a design value for your screen.

	E 30 integrity only	EW 30 integrity and radiation	EI 30 integrity and insulation
Stops flames and hot gases	✓	✓	✓
Limits radiated heat	✗	–	✓
Limits unexposed face temperature	✗	✗	✓
Approved Document B	Table B3 caps area	not a category	no cap on glass

What the three ratings limit, from Approved Document B (B18, 5.4, Table B3) and the GGF guide. EW is, per GGF, a feature of the tested element and not a lower grade of insulation. Original drawing by Make Bespoke Studio.

SPECIFICATION WORDING

STEEL-FRAMED SCREEN, NOT FIRE-RATED

Fixed glazed screen and door(s) at [ref] in [hot-rolled steel sections, W20 family], welded mitred corners, tee bars [riveted and face-welded], to shop drawing [ref]. BS 6510:2010 is an external standard: [only the section family and workmanship apply; no weathertightness class]. Finish [galvanised to BS EN ISO 1461 then polyester powder to BS EN 13438, RAL [ ]] [or raw steel as sample [ref]]. Tee-bar face not over [ ] mm. Perimeter movement gap [ ] mm, sealed [ ]; no load on the head.

GLAZING, SAFETY AND MANIFESTATION

Glass [type and thickness to suit the rebate, confirmed by the glazier]. Critical locations (Approved Document K Diagram 5.1): BS EN 12600 class [3], permanently marked; small-pane annealed glass only within [250 mm width, 0.5 m2, 6 mm minimum] and agreed in writing. Manifestation [logo or band] at [850 to 1000] and [1400 to 1600] mm above finished floor, or steel rails at those heights.

FIRE-RESISTING GLAZED SCREEN

Fire-resisting screen at [position ref, fire strategy drawing [ ]] to achieve [E 30 / EI 30 / EI 60] to BS EN 13501-2, as a complete system (frame, glass, seals, beads, fixings and fire stopping as tested or assessed), exposed from [face A / both faces]. Before manufacture submit the classification or assessment report with its field of application, installation instructions and [third-party certificate]. Glass marked with maker and product. No change, cutting or site glazing unless the evidence allows. Doors in the screen: evidence for the door as built in [BS EN 1634-1]. Handover: evidence, glass marking and fire-stopping records.

TERMS USED

Sightline

The visible width of a frame member seen from the front, set in a steel screen by the section family and the glazing bead.

Integrity (E)

How long a fire-resisting element keeps flames and hot gases from passing through it, in minutes.

Insulation (I)

How long a fire-resisting element limits heat transfer to its unexposed face, in minutes.

Field of application

The limits within which a tested or assessed system's rating is valid, such as glass size, frame and surround.

Critical location

A glazed position where people are likely to be hit by or fall into the glass, mapped by heights in Approved Document K.

STANDARDS AND SOURCES

- Approved Document B volume 2 (2019 edition, 2020 to 2026 amendments; 2029 amendments): 5.4, 5.5, 8.34, Appendix B, Table B3; read 6 Nov 2026.
- Approved Document K (2013 edition, England): Sections 5 and 7; call for evidence open from 19 Oct 2026.
- BS 6510:2010: BSI Knowledge: current. External windows and glazed doors; scope read, standard not read.
- BS EN 12600:2002, BS 6206:1981, BS 6262-4:2018, BS EN 1364-1:2015, BS EN 15254-4:2018, BS EN 13501-2:2023: statuses in the notes; none read.
- Steel Window Association fact sheets (Aug 2024); Glass and Glazing Federation guide (Issue 4, 2018): trade bodies; not design values for your screen.

Full guide: https://makebespoke.com/trade/technical/steel-and-glass-screens-and-doors. Make Bespoke Studio coordinates manufacture through its partner workshops. Figures are guidance only and your specification governs; some may be superseded, so contact the studio to verify.