

Choosing The Most Appropriate Solution For Your Project.

Overview

There is no single fire-rated glazing system that's suitable for every project.

The correct solution depends on far more than the required fire rating. Building use, location, aesthetics, thermal performance, security, budget and installation constraints can all influence the final specification.

Selecting a system purely on price or appearance can lead to unnecessary redesign, delays and, in some cases, a solution that doesn't fully satisfy the project's requirements.

The best approach is to establish the performance requirements first, then identify the system capable of meeting them.

Understand the Application

The first question should always be: *Where will the glazing be installed?*

Typical applications include:

- Internal glazed screens.
- External windows.
- Single and double doors.
- Entrance screens.
- Curtain walling.
- Vision panels.
- Fixed glazed partitions.

Each application places different demands on the glazing system and may require a different tested solution.

Internal or External?

Although many fire-rated systems appear similar, not all are suitable for external use.

Internal systems are generally selected around:

- Fire resistance.
- Appearance.
- Acoustic performance.

External systems may also need to satisfy additional

performance requirements, including:

- Weather resistance.
- Air permeability.
- Water tightness.
- Wind loading.
- Thermal performance.

Confirming whether the application is internal or external should always be one of the first steps in the specification process.

Selecting the Right Frame Material

The choice of framing material can influence appearance, maintenance requirements, durability and cost

Aluminium

A popular choice for many commercial projects because it offers:

- Slim sightlines.
- Excellent corrosion resistance.
- Low maintenance.
- A wide range of colours and finishes.
- Suitability for both internal and external applications.

Steel

Often specified where::

- Very slim profiles are required.
- Larger spans are needed.
- A traditional or industrial appearance is preferred.
- Additional structural strength is beneficial.

Timber

Frequently selected where:

- Heritage appearance is important.
- Conservation requirements apply.
- Existing buildings require sympathetic replacement.

Each material has its own advantages. The most appropriate choice depends on the project rather than personal preference.

Consider More Than Fire Resistance

Fire performance is only one part of the specification.

Many projects also require consideration of:

- Thermal performance.
- Acoustic performance.
- Security.
- Safety glazing.
- Solar control.
- Accessibility.
- Appearance and finish.

Considering these requirements at the beginning of the design process is generally far easier than trying to accommodate them later.

Glass Selection

The glazing should be selected to suit both the required fire classification and the intended application.

Factors influencing glass selection include:

- Required fire rating.
- Glass dimensions.
- Acoustic requirements.
- Privacy.
- Safety glazing.
- Weight

Whatever glass is selected, it must be compatible with the framing system and supported by appropriate fire test evidence..

Think Beyond the Glazing

Fire-rated glazing rarely operates in isolation.

Consider how it will integrate with the wider building, including:

- Adjacent doors.
- Access control systems.
- Smoke control measures.
- Future maintenance.
- Availability of replacement components.

Early discussions help identify potential challenges before products reach site.

Supporting Documentation

Disclaimer

This guide provides general guidance on selecting fire-rated glazing systems and should not replace project-specific fire strategies, statutory guidance or manufacturer recommendations. Every project should be assessed individually to ensure the selected system is appropriate for its intended application.

Depending on the project, technical documentation may be required before products are approved.

This may include:

- Fire classifications.
- Classification reports.
- Fire test reports.
- Technical assessments.
- Installation guidance.
- Product data sheets..

A solution that works well on paper should also remain practical throughout the life of the building.

In Practice

It's common for clients to request a particular system because it was used successfully on another project.

While previous experience can be useful, no two buildings are identical.

Changes in occupancy, building layout, fire strategy or performance requirements may all influence the most appropriate solution. A system that performs perfectly within an office refurbishment may not be suitable for a hospital, school or residential development.

Every project should be assessed on its own merits.

Key Points

- There is no universal fire-rated glazing system suitable for every application.
- Product selection should begin with the project's technical requirements rather than a preferred manufacturer.
- Internal and external applications often require different tested systems.
- Fire resistance should be considered alongside thermal, acoustic, security and aesthetic requirements.
- Early technical advice usually results in a more efficient and compliant specification.

Relevant Standards

- **Approved Document B** – Fire Safety.
- **BS EN 13501-2** – Fire classification of construction products and building elements.
- **BS EN 1364-1** – Fire resistance testing for non-loadbearing glazed elements.
- **BS EN 1634-1** – Fire resistance testing for doorsets, shutters and openable windows.
- Manufacturer fire test evidence and technical documentation.