



Glass and Glazing Federation



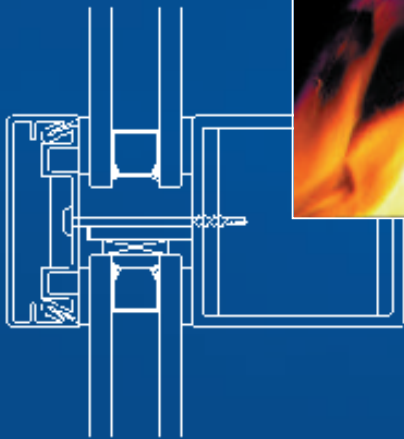
SCHOTT UK Ltd
Sales Office
Drummond Road
Stafford ST16 3EL
Phone: 01785 223166
Fax: 01785 223522
Email: info.uk@schott.com
www.schott.com/uk

SCHOTT
glass made of ideas



SCHOTT PYRAN[®] S

The fire resistant glass
with outstanding performance



SCHOTT PYRAN® S

fire resistant glass

Architects working in close co-operation with building authorities and fire departments are able to take increasing advantage of the creative and cost effective construction possibilities offered by PYRAN® S fire resistant glass from SCHOTT. PYRAN® S has been approved for use in large sizes and in a range of thicknesses to meet most fire resistant glazing applications demanding integrity ratings.

PYRAN® S is a toughened borosilicate glass which is produced by the float process to provide a high quality surface finish.

Specialist solutions

PYRAN® S is a highly technical glass which has been extensively tested to offer perfect fire protection in a wide range of options to suit all applications:

- Butt joints provide long runs without mullions
- Frameless fire doors
- Minimal timber framed doors, screens and partitions
- Structural glazing
- Screenprinting / sandblasting finishes
- Lamination with coloured and/or acoustic interlayers



Countless applications

For over 25 years SCHOTT has worked successfully with partners to develop sophisticated fire resistant glazing solutions to prevent the passage of flames and smoke for up to two hours, for use in:

- fire doors
- windows and atria
- unlimited runs of partitions
- facades and overhead applications

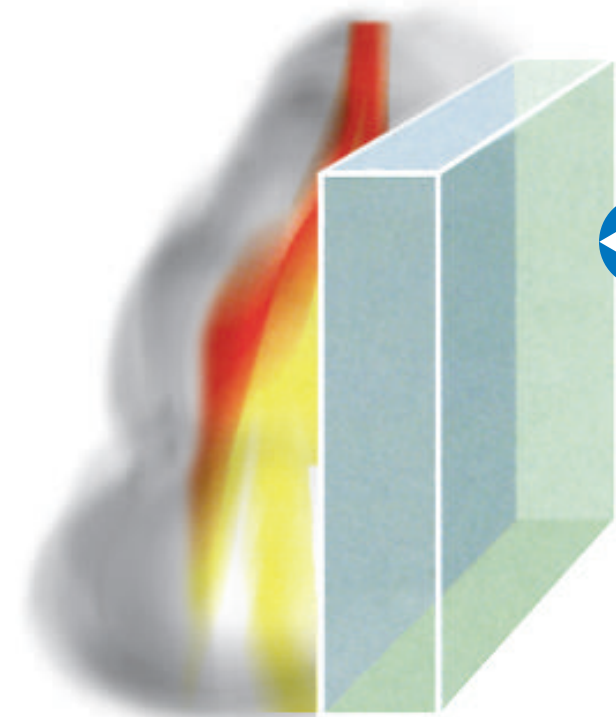
SCHOTT has a wide international portfolio of approved systems that use PYRAN® S.

Integrity Rating	Frame/Joint system		
	Steel	Timber	Butt-Joint
30 minute	✓	✓	✓
60 minute	✓	✓	✓
90 minute	✓		
120 minute	✓		



PYRAN® S is manufactured at the only borosilicate float plant in the world and offers outstanding properties:

Compared to soda-lime glass PYRAN® S has lower thermal expansion. This is the reason why it resists high temperatures and has long staying power even in minimal frame constructions.



As a component of fire resistant glazing, PYRAN® S meets stringent fire regulations and prevents the passage of flames and fumes for up to two hours.

PYRAN® S is fully toughened to meet the requirements of a safety glass. In the event of breakage PYRAN® S shows the typical break pattern in very small fragments.



The brilliant optical quality and high light transmission of PYRAN® S result in true colour reproduction.

PYRAN® S has been tested to extreme fire test conditions.



PYRAN® S in timber and steel

PYRAN® S provides over two hours integrity in steel frames. Of course, not all applications call for two hours fire resistance, but this means PYRAN® S can offer much larger pane sizes for shorter time periods.

Unlike many of its competitors, PYRAN® S can be glazed with a generous rebate depth of up to 25mm, with no gluing. This can be a critical factor in the event of a fire, when the distortion of steel frames can reduce the depth of glass rebated into the frame. No other clear integrity monolithic fire resistant glass has achieved this result.



PYRAN® S has achieved in excess of 60 minutes integrity with large glass sizes in timber frames, including transoms.

As most timber screens require transoms and/or mullions, it is comforting to know that the systems offered by SCHOTT have been tested and assessed using these shared members which, in a fire situation, will suffer increased fire exposure and will char more rapidly than a glazed screen using a single pane with perimeter members only.

For 30 minute applications frames and doors can be constructed in softwoods and hardwoods or a combination of both. Ash is a popular frame material that is unpredictable during fire testing. PYRAN® S has been successfully tested with this timber.

Double glazed units

In combination with other types of glass, PYRAN® S can be incorporated into special double glazed units to provide large areas of glass which are not only visually appealing, but also meet stringent Building Regulation requirements for fire ratings and thermal insulation. Argon filled units combined with PYRAN® S and a secondary pane of laminated, toughened, body tinted or low emissivity coated glass further improve levels of thermal insulation.

In addition to fire resistance and thermal insulation PYRAN® S DGU's offer additional benefits:

- Sun protection
- Anti-glare
- Sound insulation
- Protection of people and objects
- Design freedom
- Integrated blinds



PYRAN® S

butt joint system 30 & 60 minute performance

Traditional fire rated glazing is usually associated with obtrusive mullions and cross bar constructions which detract from the natural transparency of glass. As a result, architects and designers normally have to compromise their designs where fire protection is necessary.

This no longer has to be the case. The PYRAN® S fire resistant butt joint system allows architects and designers the freedom to construct unlimited runs of glass without the need for obtrusive framework which can destroy the aesthetic appeal of the line of a building.

Large panes of glass up to 3 metres high are joined by a scarcely visible intumescent sealant to allow the clean look of glass to be exploited to maximum effect.

Ideal for application in fire risk areas where maximum visibility and minimal interruption are desired.

- Freedom of design to exploit the clean look of glass
- Maximum visibility - no obtrusive mullions
- Large pane size - from floor to ceiling
- Unlimited runs of glass
- Over 60 minutes integrity fire resistance
- Joint width only 7mm
- Range of glass thicknesses from 6mm - 12mm

The success of the butt joint system depends on the unique borosilicate composition of PYRAN® S. The butt joint system is only valid with the use of the materials which have been tested and assessed. The use of alternative materials will result in the screen not achieving the required period of fire resistance.



PYRAN® S

Technical details - at a glance

Glass type	Toughened Borosilicate				General
Manufacturing process	Float process providing excellent optical glass quality				
Colour	Clear glass (coloured laminates available)				
Colour reproduction index (Ra)	~100%				
Integrity (E)	Tested & approved in systems to 30, 60, 90, 120 minutes				
Impact resistance	BS EN 12600 1C1				
Thickness	6mm	8mm	10mm	12mm	Sizes
Maximum pane size	1650 x 3100	1800mm x 3600mm			
Minimum pane size	300mm x 200mm (smaller sizes may be possible on request)				
Size tolerance	<1m ±1mm <2m ±2mm <3m ±3mm				
Thickness tolerance	±0.2mm	±0.2mm	±0.3mm	±0.3mm	Physical Properties
Weight	14.1kg/m ²	18.8kg/m ²	23.5kg/m ²	28.2kg/m ²	
Light transmission	92%	92%	91%	91%	
Sound reduction when single glazed*	31 ± 1dB	33 ± 1dB	34 ± 1dB	35 ± 1dB	
Density (at 25°C)	2.35g/cm ³				
Modulus of elasticity	69 kN/mm ²				Thermal Data
U-value (monolithic form)	5.8 W/m ² K				
Co-efficient of expansion (20-300°C)	4 x 10 ⁻⁶				
Rate of thermal expansion	~ 0.3mm/m/100°C				
Heat conductivity at 90°C	1.26 W/mK				

* Higher acoustic values are available in laminated and double glazed formats.

IMPORTANT NOTE

As PYRAN® S is a toughened glass it cannot be further worked after leaving the factory.



SCHOTT's test evidence for PYRAN® S fire resistant glass has been assessed by Warrington Certifire (part of Warrington Fire), the UK's leading third party accreditation scheme. Copies of the CERTIFIRE documentation for PYRAN® S are available from SCHOTT UK, and downloadable from www.schott.com/uk/english/products/architectural/downloads.html.

Our competence is your safety

SCHOTT is an international technology-driven company whose core product is specialist glass. PYRAN® S is produced by SCHOTT Jenaer Glas GmbH, Germany which is certified to ISO 9001.

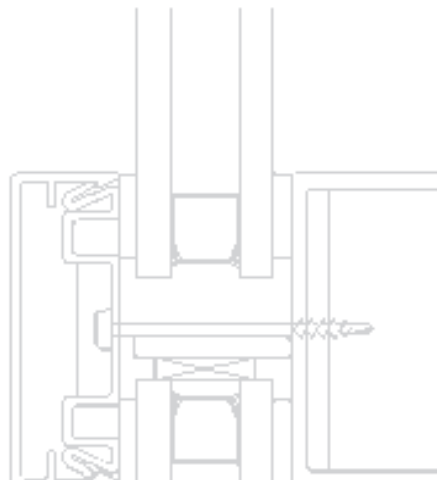
PYRAN® S fire resistant glass is not wired or laminated so provides distortion-free vision with its excellent float quality and stays transparent even at high temperatures. Therefore, the safe evacuation of people from burning buildings is more practical.

PYRAN® S provides not only fire protection, but is also fully toughened to meet safety requirements, so it can be installed in critical locations where safety glass is necessary.

Samples of PYRAN® S are frequently tested by the authorities within the scope of building regulations.

All thicknesses of PYRAN® S have been successfully tested for impact resistance to BS EN 12600 1C1 and each pane carries a permanent mark denoting its safety classification.

PYRAN® S is manufactured against strict composition and quality control criteria. As a Level One Assesation Product under the Construction Products Directive of the European Community it has been successfully tested and approved by an independent third party certification body, which permits all PYRAN® S to be sold under the CE mark.



TECHNICAL ADVICE

To discuss your specific requirements, contact SCHOTT UK's team of technical advisors on 01785 223166 or email info.uk@schott.com.

