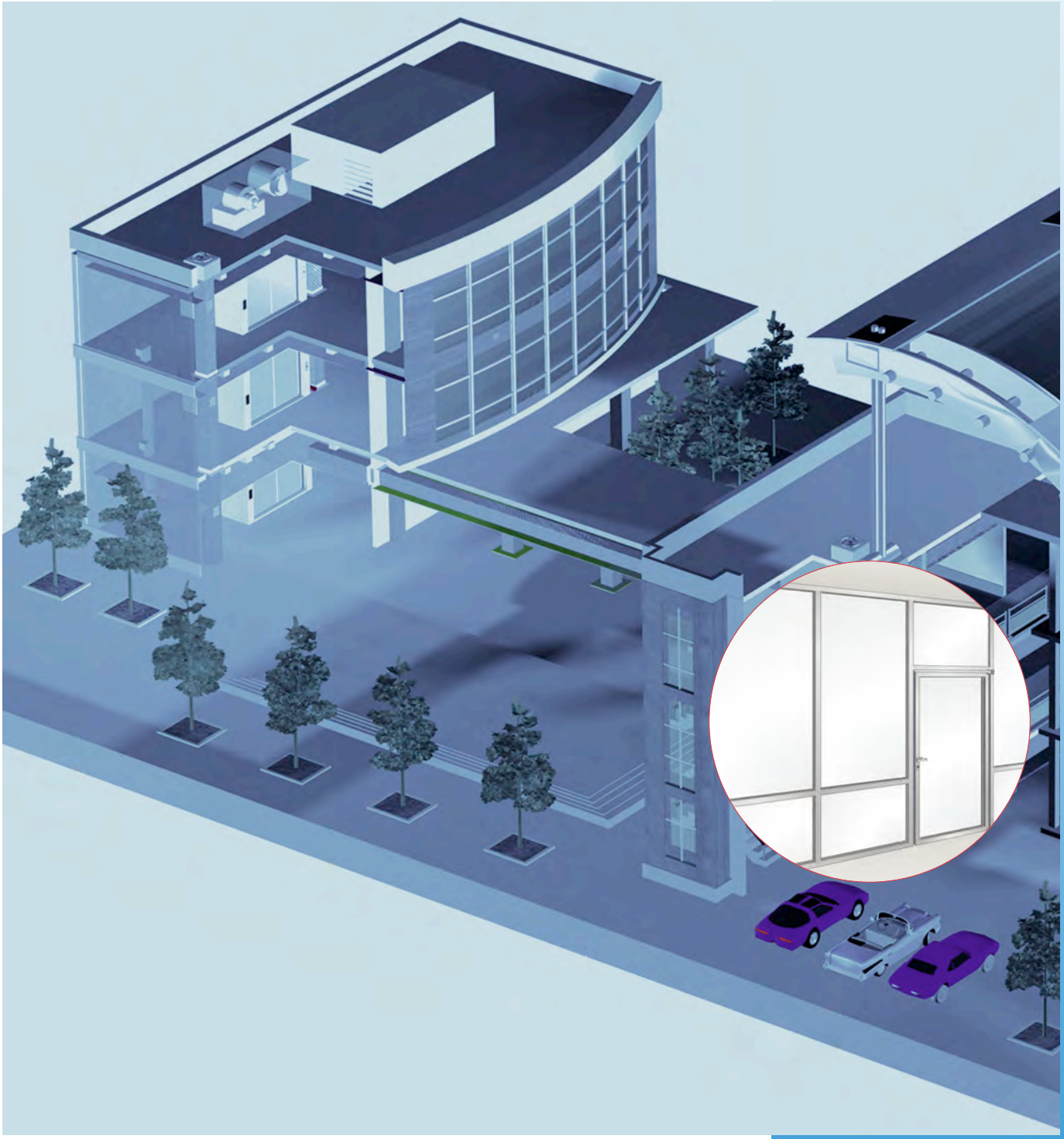
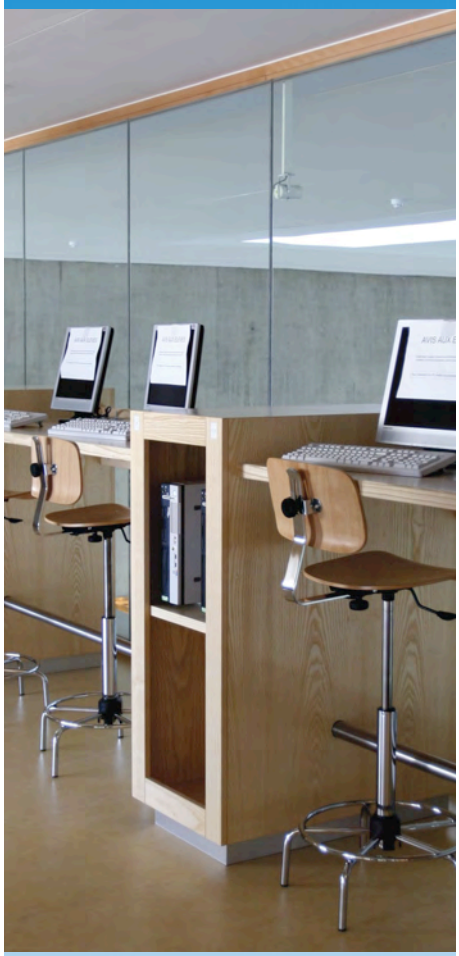


The Passive Fire Protection Handbook

Chapter 8: Fire Resistant Glazing Systems



FIRE RESISTANT INSULATED GLASS – PROMAT SYSTEMGLASS®

Promat SYSTEMGLASS® has been especially developed to enable architects and designers to indulge in aesthetically pleasing constructions whilst ensuring the vital aspect of fire safety is completely addressed.

For Promat UK Limited, the aesthetics of glazing systems go hand-in-hand with the vital aspect of fire safety offered by passive fire protection systems.

Promat SYSTEMGLASS® is a patented system that allows glazed screens to provide the maximum possible light transmission by replacing intermediate mullions joining adjacent glass panes with a simple butt joint. The system is unique in providing both insulation and integrity in a butt-jointed system with up to 60 minutes fire resistance. Framed systems now available with up to 120 minutes fire resistance.

Exciting design concepts are now possible with the Promat SYSTEMGLASS®. The system offers superior passive fire protection quality using innovative methods of construction. The Promat SYSTEMGLASS® construction provides insulation across the glass joints without the need for insulating cover strips. This performance is only possible with the specially developed Promat SYSTEMGLASS®.

With our patented Promat SYSTEMGLASS® constructions, we have developed a wide range of fire resistant systems, including FD30 and FD60 glazed doorsets. All our designs will provide both integrity and insulation in accordance with the criterion of the BS 476: Part 22: 1987.

Further details on Promat SYSTEMGLASS® Doors are shown in Chapter 9 of this handbook.

Promat SYSTEMGLASS® is available in a number of variants including several tints and surface finishes.

Promat SYSTEMGLASS® systems offer the following 5 key advantages:

1. Joints in the Promat SYSTEMGLASS® all-glass screens are formed using the patented structural adhesive system requiring no transoms or mullions.
2. The perimeter frame of the screen uses slender sections only 50mm wide and 20mm deep.
3. Promat SYSTEMGLASS® fire doors (double leaf or single leaf), can be fixed either within a glazed screen or a masonry wall construction, and can also be used as smoke rated (FD30S) doors.
4. Promat SYSTEMGLASS® doors can be installed available as latchless up to 30 minutes.
5. The use of standard steel hollow sections and accessories makes each Promat system very economical in construction.

Table 8a Comparison of Promat SYSTEMGLASS®

	Promat SYSTEMGLASS® 30		Promat SYSTEMGLASS® 60		Promat SYSTEMGLASS® 90		Promat SYSTEMGLASS® 120	
Fire resistance	**30 minutes integrity & insulation**		**60 minutes integrity & insulation**		**90 minutes integrity & insulation**		**120 minutes integrity & insulation**	
Glass type	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2	Type 1	Type 2
Areas of use	Internal and protected from UV	Internal but exposed to UV	Internal and protected from UV	Internal but exposed to UV	Internal and protected from UV	Internal but exposed to UV	Internal and protected from UV	Internal but exposed to UV
Thermal transmittance W/m²K	5.2	5.0	5.1	5.0	4.9	4.7	4.8	4.7
Sound reduction (Rw) dB	39	41	41	42	43	44	46	47
Safety rating (BS 6206)	Class B	Class A	Class A	Class A	Class A	Class A	Class A	Class A
EN 12600	2B2	1B1	1B1	1B1	1B1	1B1	1B1	1B1
Butt joint application (NF)	Yes	Yes	Yes	Yes	No	No	No	No
Maximum tested pane size mm	2700 x 1400		2700 x 1400		2300 x 1400		2420 x 1100	
Size tolerance mm	+2 to -2		+2 to -2		+2 to -2		+3 to +3	
Glass structure	Laminate	Laminate	Laminate	Laminate	Laminate	Laminate	Laminate	Laminate
Thickness mm	17	21	25	29	37	41	52	56
Weight kg/m²	40	48	60	68	80	88	122	130
Light transmittance (clear) ca%	85	83	83	82	80	78	71	70
Colour options	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
	–	Bronze	–	Bronze	–	Bronze	–	Bronze
	–	Grey	–	Grey	–	Grey	–	Grey
	–	Green	–	Green	–	Green	–	Green
	–	Patterned	–	Patterned	–	Patterned	–	Patterned
	–	Opal	–	Opal	–	Opal	–	Opal
	–	Reflective	–	Reflective	–	Reflective	–	Reflective
	–	–	–	–	–	–	–	–
Surface finish	On application		On application		On application			On application

NOTE: *If higher sound reduction or double glazing is required, please consult Promat Technical Services Department for further options.*
The properties in this table are mean values given for guidance only. For further details on Promat SYSTEMGLASS®, please contact the Marketing Services Department on 01344 381 350.

Notes