



GLASS PERFORMANCE

Windell can specify SGG PLANITHERM™ & Pilkington Optitherm™ ranges of energy-saving products in their curtain walling systems

Table 1: Performance Data for SGG PLANITHERM range

SGG PLANITHERM TOTAL						
External pane		SGG PLANILUX				
Internal pane		SGG PLANITHERM TOTAL				
Composition *	mm	4 (12) 4	4 (16) 4	6 (12) 6	6 (16) 6	
Thickness	mm	20	24	24	28	
Weight	kg/m ²	20	20	30	30	
Low-E coating position	face	3	3	3	3	
Light factor						
LT	%	79	79	77	77	
LRe	%	12	12	11	11	
LRI	%	12	12	11	11	
UV	%	35	35	30	30	
Energy factor						
T	%	54	54	51	50	
Re	%	23	23	21	21	
A1	%	12	12	17	17	
A2	%	10	10	12	12	
Solar factor g		0,63	0,64	0,61	0,61	
Shading Coefficient		0,73	0,73	0,70	0,70	
U-value		W/(m ² .K)				
Air		1,7	1,4	1,7	1,4	
Argon 90 %		1,3	1,2	1,3	1,2	
Sound reduction indices *						
RW	dB	30	30	33	34	
C	dB	0	0	-1	-2	
Ctr	dB	-3	-3	-3	-5	
RA	dB	30	30	32	32	
RA,tr	dB	27	27	30	29	

Table 2: Performance Data for Pilkington Optitherm™ S1 Pro T [Toughened]

Product Description	Light		Solar Radiant Heat				Total shading coefficient	U _g -value (W/m ² K)
	Transmittance	Reflectance	Direct Transmittance	Reflectance	Absorptance	Total Transmittance (g value)		Argon-filled (90%)
Pilkington Insulight ™ Therm (with 4 mm outer pane, 16 mm argon gas-filled cavity and 4 mm Pilkington Optitherm ™ S1 Pro T (Toughened) inner pane)								
Pilkington Optifloat ™ Clear	0.76	0.17	0.49	0.34	0.17	0.56	0.64	1.0
Pilkington Optiwhite ™	0.77	0.18	0.51	0.39	0.10	0.58	0.67	1.0

Performance data determined in accordance with EN 410 and EN 673. Low-e coating on surface 3 (counting from the outside).

Tested by: **SGG & Pilkington**



PERFORMANCE OVERVIEW

Windell use System 17 High Rise Curtain Walling which compiles with current British Standards and is considered as an appropriate option for expansive high rise glazed applications

Weather Performance:

The Curtain Walling has been tested for weather tightness in accordance with the CWCT sequence B, including the dynamic test for curtain walling and achieved the following results:

Air Permeability	600Pa	Pass
Watertightness	600Pa	Pass
Wind Resistance	2400Pa	Pass
Dynamic Water Penetration [Aero Engine]	600Pa	Pass
Dynamic Water Penetration European Standard [Fan] BS EN 13050	900Pa	Pass
Hose Pipe Test	22l/min@ 220Pa	Pass

Air Permeability:

0.045m³/h m² @ 50Pa

Security:

This system has passed BS 7950 incorporating Amendments 1, 2 and 3 "Specification for Enhanced Security Performance" as generally accepted on Secure by Design products.

Impact Resistance:

BS EN 12600 50kg

Tested by: **Metal Technology**



THERMAL PERFORMANCE

Windell use System 17 High Rise Curtain Walling which complies with current British Standards and is considered as an appropriate option for expansive high rise glazed applications

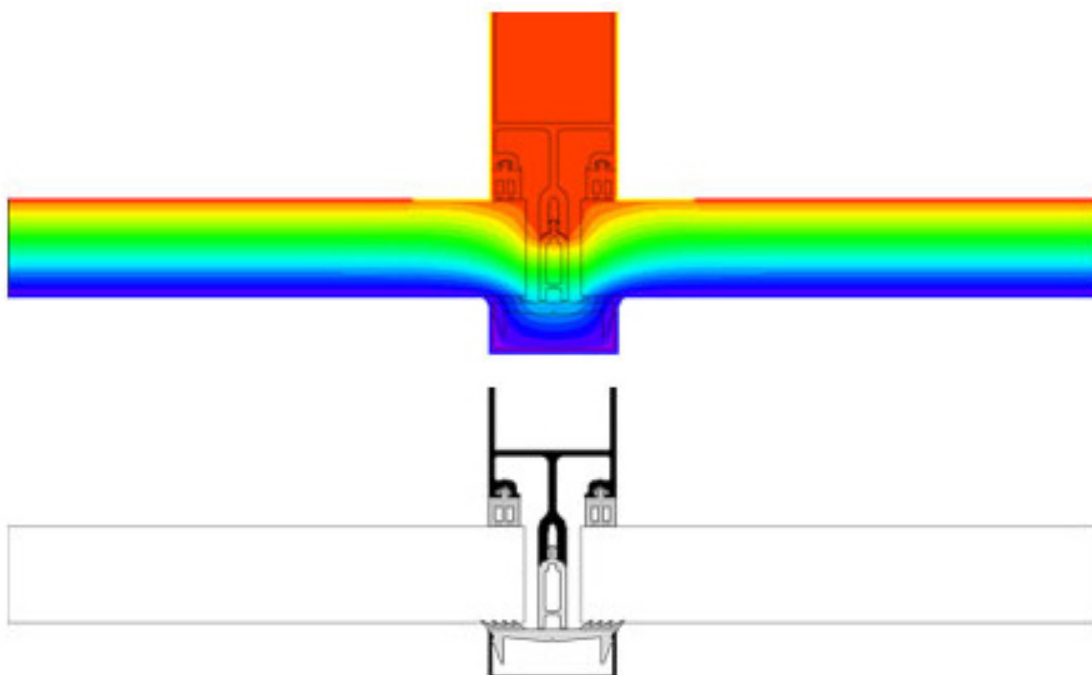
System 17 High Rise Curtain Walling in conjunction with the correct glass specification is designed to aid compliance with the latest thermal requirements of the current building regulations.

The thermal isolator profile has been specifically designed to minimise heat transfer across the mullion and transom profiles.

System 17 High Rise	U-Frame Values System 17 High Rise [38mm]
Mullion	2.01w/m ² k
Transom	2.18 w/m ² k

The following U-values for System 17 HR are based on a 7m [w] x 8m [h] curtain walling screen.

Achievable whole window U-value [38mm]	Centre pane U-value	
		1.1 W/m ² K
System 17 High Rise	1.25 W/m ² K	0.87 W/m ² K



Tested by: **Metal Technology**