



Architectural & Security Glass



Solar Control Glass: Technical Specifications

Solar and Environmental Control Glass

Our laminated glass provides the benefit of safety and security by combining float and/or toughened glass with the toughness and durability of polyvinyl butyral (PVB) interlayer. These benefits can be combined within a range of environmental control glass which provides a more comfortable interior for glazed structures by reducing heat build-up as well as reducing heat loss in colder climates.

All Romag PVB laminated glass filters 99.9% of harmful ultra-violet light and our California Series Glass® reflects a large percentage of infrared light which is the cause of heat build up.

Romag California Series Glass®

California Series products sandwich a "heat rejecting" film between two layers of PVB and glass. The finished product has a unique, low reflective appearance, while allowing more than 70% visible

light transmission but allowing less than 35% of solar heat gain.

Romag's California Series laminated glass invites the architectural use of sunlight while selectively reducing unwanted heat gain. The demand by architects, builders, owners and occupants today is for natural daylighting with reduced energy costs. Romag's California Series Glass meets these demands.

Conventional monolithic glazing with clear glass provides good light transmission for daylighting needs, but ordinary clear glass allows unwanted infrared heat gain. Although tinted or "heat absorbing" glass reduces heat gain through absorption, it also reduces visible light transmission within the structure. Solar energy that is absorbed rather than reflected is re-radiated into the building and adds to the heat gain. Romag's California Series Glass® provides monolithic glass or insulated glass

units that reflects unwanted infrared heat whilst maximising visible light inside.

California Series Glass® can be used on vertical, sloped or overhead glazing applications. From curtain walling to monumental skylights, this technology offers expanded choices of energy efficient glazing. California Series Glass® can be fabricated in nearly all flat configurations or architecturally curved for maximum effect. Glazed monolithically or combined into sealed insulating units, California Series laminates can be annealed, heat strengthened or toughened clear glass or combined with tinted PVB and/or body tinted glass.

For general performance data please see the following tables. For advice on a specific project or on the performance of a particular glass combination, please contact our technical department. Screen printing can also be used to control light and energy to create a varied aesthetic feel.

Combinations

- Transparent laminated glass
- Coloured PVB • Tinted glasses
- Low-Emissivity insulating glass
- Reflective • Toughened glass
- Heat strengthened glass
- Curved glass

Advantages

- Over 70% light transmission
- Less than 35% solar heat gain
- 99% UV protection
- Sound insulation
- Safety
- Security

Applications

- All glazing exposed to sunlight
- Curtain walls
- Rooflights
- Atria

California Series Single Laminated Glass Performance Data - For guidance only

Maximum Dimensions 3210 x 2000mm

Glass Type	Glass Thickness (mm)	Transmission %		Reflectance Exterior		Shading Coefficient	Relative Heat Gain W/m2
		Visible	Solar	Daylight	Solar		
Clear	6.8	72	32	8	34	0.48	346
Clear	12.8	70	30	9	29	0.47	342
Low Reflective Low Iron	8.8	80	36	3	38	0.49	356
Low Iron	12.8	79	36	3	37	0.49	353
Green Body Tint	6.8	65	27	8	32	0.44	325
Green Body Tint	12.8	60	23	8	29	0.41	307
Blue Body Tint	12.8	57	22	7	28	0.40	298
Bronze Body Tint	6.8	53	24	8	34	0.41	306
Bronze Body Tint	12.8	42	18	7	31	0.37	275
Grey Body Tint	6.8	48	22	7	32	0.40	303
Grey Body Tint	12.8	35	16	7	28	0.35	269

The following data is intended for guidance only based upon Double Glazed units constructed with 6.8mm California Series outer glass and 6mm clear inner glass - total thickness 25mm. For specific performance relating to individual projects please contact our technical dept.

California Series Single Double Glazed Units Performance Data - For guidance only

Glass Type	Glass Thickness (mm)	Transmission %		Reflectance Exterior		U-Value	Shading Coefficient	Relative Heat Gain W/m2
		Visible	Solar	Daylight	Solar			
Clear	6.8	64	27	13	36	Varies according to Low E option selected. Contact technical department for specific advice	0.39	269
Low Iron	6.8	68	32	13	41		0.41	284
Green Body Tint	6.8	58	24	12	34		0.35	245
Blue Body Tint	6.8	55	21	11	33		0.33	230
Bronze Body Tint	6.8	47	21	10	35		0.32	226
Grey Body Tint	6.8	43	19	9	32		0.31	220

Solar Control Interlayers are ideal for lower performance solar control, whilst providing aesthetically pleasing coloured tints to laminated glass. All benefits and performance characteristics of standard clear PVB interlayers remain unchanged with the added performance benefits of tinted glass.

Solar Control Interlayers

Colour	Designation	Light	Solar	Solar	Direct Solar	Total Solar
		Transmission %	Reflectance %	Absorption %	Transmittance %	Transmittance %
Clear	(for comparison)	88	87	14	79	82
Light Brown	3655	55	5	37	58	69
Medium Brown	3628	28	5	59	36	54
Grey	6544	44	6	53	41	53
Translucent White	2165	65	10	38	52	64
Blue/Green	3773	73	7	21	72	77
Cool Blue	6376	76	6	19	75	78

The above figures are based on one interlayer used to bond two pieces of 3mm glass.

The attached information is intended as a guide to the technical details on Romag's key products. The information may be incorrect or incomplete. For more detailed information relating to specific applications, please contact Romag's technical department.



Romag Limited

Leadgate Industrial Estate, Leadgate, Consett, Co. Durham, England, DH8 7RS

Tel: **+44 (0) 1207 500 000** Email: **sales@romag.co.uk** or visit **www.romag.co.uk**