

The Charts opposite provide performance data for double glazed units containing 6mm thick glass products from leading glass suppliers Pilkington, Saint-Gobain and Guardian. Each table shows a wide selection of different external panes of medium to high performance solar control glass combined with a 16mm argon gas filled cavity and an inner pane of 6mm thick clear super low e glass. High Performance glass contains a super low e coating within its substrate, so the inner pane in these cases is provided as traditional 6mm thick clear glass.

All of the body tinted/neutral outer glass pane options will decrease the overall light transmission percentage of the product to varying extents in comparison to traditional clear glass, but with the added benefit of reducing the total heat transmission percentage value.

When considering a suitable glass product for your project the most helpful values shown in the tables opposite are usually the Light Transmission and Solar Radiant Heat Total Transmission percentages. It is advisable to keep in mind these two values for clear double glazed units that have no solar control properties when making comparisons to the other options.

Light Transmission advice

It is worth noting that even clear double glazed units prevent 22% of direct light from entering the building. This reduction in light is hardly discernible to the building user. The neutral types of glasses available can have light transmission values as low as 40% but will still provide relatively high levels of light transmission as far as the building user will be concerned.

Glare Reduction

It is important to realise that even the highest performing double glazed units available on the market are not capable of totally reducing glare from direct sunlight. Depending on the positioning of the roof glazing, internal or external shading devices may still be required at certain times of the day/year to prevent uncomfortable conditions for the building users.

Availability Issues

Please note that currently all Pilkington Sun-cool high performance products are imported from Europe and have significantly extended lead-in times when compared to normal glass products. It is usual for these types of units to have delivery periods ranging from eight to sixteen weeks. It is therefore of extreme importance that this issue is considered very early on in the design stage if these products are to be used. Another aspect that needs considering is that of replacements and breakages which again will have very long lead in times.

For these reasons it is not always practical to use some of the products on time sensitive projects. There are however a smaller number of high performance double glazed unit types that are made in the UK and have normal lead in times. Table 2 opposite shows high performance Coolite SKN 176 & SKN 165 products from Saint-Gobain that are available as standard products in the UK. We would suggest that these glass types are given consideration before the other high performance products.

Glass Performance Data

Performance data for typical Double Glazed Units with standard lead-in times										
- Pane glass product of Double Glazed Unit	Light		Solar Radiant Heat				Shading Coefficient			U Value (W/m ² K)
	Transmittance	Reflectance	Direct Transmittance	Reflectance	Absorption	Total Transmission	Short Wavelength	Long Wavelength	Total	
Double Glazed Units with Clear & Medium Performance Body Tinted Outer Pane										
6mm Clear	0.82	0.12	0.62	0.21	0.17	0.71	0.71	0.11	0.82	1.15
6mm Clear (Low Iron)	0.83	0.12	0.64	0.23	0.13	0.74	0.74	0.11	0.85	1.15
6mm 75/59 (Green)	0.73	0.10	0.43	0.10	0.47	0.50	0.49	0.08	0.57	1.15
6mm 49/58 (Bronze)	0.56	0.08	0.42	0.13	0.45	0.50	0.48	0.09	0.57	1.15
6mm 45/58 (Grey)	0.51	0.07	0.40	0.12	0.48	0.48	0.46	0.09	0.55	1.15
6mm 46/58 (Blue)	0.46	0.07	0.25	0.07	0.68	0.32	0.29	0.07	0.36	1.15
6mm Self Cleaning (Activ) Clear	0.70	0.21	0.42	0.37	0.21	0.50	NS	NS	0.57	1.15
6mm Self Cleaning (Activ) Blue	0.41	0.16	0.21	0.16	0.63	0.26	NS	NS	0.30	1.15
6mm Self Cleaning (Activ) Neutral	0.41	0.30	0.25	0.30	0.44	0.31	NS	NS	0.36	1.15
Double Glazed Units with Guardian Sunguard Super Neutral™ High Performance Solar Control Outer Pane										
6mm Super Neutral 70	0.70	0.14	0.33	0.42	0.25	0.35	NS	NS	0.40	1.0
6mm Super Neutral 62	0.63	0.12	0.31	0.37	0.31	0.38	NS	NS	0.38	1.0
6mm Super Neutral 51	0.51	0.14	0.25	0.38	0.37	0.27	NS	NS	0.31	1.0
6mm Super Neutral 40	0.40	0.16	0.21	0.36	0.43	0.23	NS	NS	0.27	1.0
6mm Super Neutral 29	0.29	0.17	0.16	0.33	0.51	0.18	NS	NS	0.21	1.0
Double Glazed Units with Saint-Gobain Coolite™ High Performance Solar Control Outer Pane										
6mm Coolite Xtreme 70/33 II	0.70	0.11	0.31	0.36	NS	0.33	NS	NS	NS	1.0
6mm Coolite Xtreme 61/29 II	0.61	0.11	0.27	0.32	NS	0.29	NS	NS	NS	1.0
6mm Coolite Xtreme 50/22 II	0.47	0.16	0.19	0.35	NS	0.21	NS	NS	NS	1.0
6mm Coolite SKN 183 II	0.75	0.12	0.38	0.34	NS	0.40	NS	NS	NS	1.0
6mm Coolite SKN 176 II	0.70	0.13	0.35	0.32	NS	0.37	NS	NS	NS	1.0
6mm Coolite SKN 175 II	0.70	0.14	0.33	0.37	NS	0.35	NS	NS	NS	1.0
6mm Coolite SKN 165 II	0.61	0.16	0.32	0.34	NS	0.34	NS	NS	NS	1.0
6mm Coolite SKN 154 II	0.52	0.18	0.26	0.30	NS	0.28	NS	NS	NS	1.0
6mm Coolite SKN 144 II	0.42	0.20	0.20	0.31	NS	0.23	NS	NS	NS	1.0

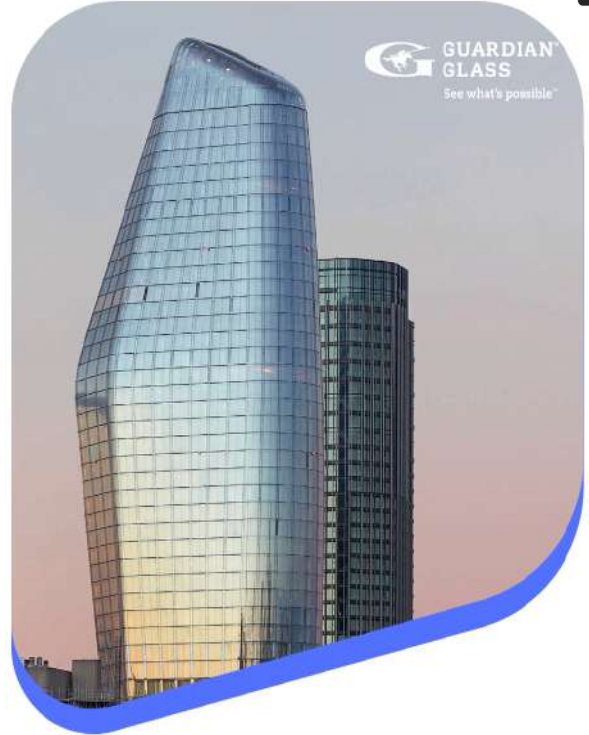
Performance data for typical Double Glazed Units with extended lead-in times										
Outer Pane glass product of Double Glazed Unit	Light		Solar Radiant Heat				Shading Coefficient			U Value (W/m ² K)
	Transmittance	Reflectance	Direct Transmittance	Reflectance	Absorption	Total Transmission	Short Wavelength	Long Wavelength	Total	
Double Glazed Units with Pilkington Suncool™ High Performance Outer Pane										
6mm 70/40 (Neutral)	0.73	0.10	0.40	0.31	0.29	0.43	0.46	0.03	0.49	1.0
6mm 70/35	0.70	0.16	0.34	0.35	0.31	0.37	0.40	0.03	0.43	1.0
6mm 66/33	0.66	0.16	0.33	0.34	0.33	0.36	0.38	0.03	0.41	1.0
6mm 60/31	0.60	0.11	0.29	0.32	0.39	0.32	0.34	0.03	0.37	1.0
6mm 50/30	0.50	0.40	0.29	0.47	0.24	0.32	0.33	0.04	0.37	1.0
6mm 50/25	0.50	0.18	0.24	0.32	0.44	0.27	0.28	0.03	0.31	1.0
6mm 40/22	0.40	0.20	0.20	0.34	0.46	0.23	0.23	0.03	0.26	1.0
6mm 30/16	0.29	0.26	0.16	0.37	0.47	0.19	0.18	0.04	0.22	1.0

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