

## Optical Properties

Type	Product code	Film thickness (μm)	Optical property								
			Visible light			Total solar energy			Shading coefficient	U-Value (W/ m <sup>2</sup> K)	Solar heat gain coefficient
			Transmitted (%)	Reflected (%)	UV transmission (%)	Transmitted (%)	Reflected (%)	Absorbed (%)			
Clear	ZC05G	85	65	21	<1	45	33	22	0.57	4.1	0.50
	ZH05G	72	65	21	<1	48	33	19	0.59	5.6	0.52
	WH03	72	75	8	<1	52	22	26	0.69	5.6	0.61
	ZS05G	70	68	21	<1	48	33	19	0.57	5.6	0.50
	IR-50HD	78	86	9	<1	65	8	27	0.85	5.8	0.75
	HCN-70G	158	73	8	<1	37	6	57	0.63	5.7	0.55
	HCN-75F	104	74	10	<1	47	13	40	0.68	5.8	0.60
Metalizing	1015UH	77	20	53	<1	16	48	36	0.31	5.7	0.27
	1035UH	77	40	31	<1	33	30	37	0.51	5.7	0.45
	1015P(UH)	72	20	53	<1	16	48	36	0.31	5.7	0.27
	1035P(UH)	72	40	31	<1	33	30	37	0.51	5.7	0.45
	1230UH	77	18	19	<1	17	23	60	0.42	5.7	0.37
	1240UH	77	18	14	<1	17	20	63	0.43	5.7	0.38
	2115	90	20	56	<1	15	56	29	0.28	5.9	0.25
	2135	90	40	32	<1	32	34	34	0.50	5.9	0.44
	2100	155	2	61	<1	1	59	40	0.17	5.9	0.15
Coloring	S2595UH	87	19	5	<1	48	6	46	0.73	6.0	0.64
	S2594UH	87	42	5	<1	59	6	35	0.81	6.0	0.71
	S2562UH	87	64	7	<1	70	7	23	0.89	6.0	0.78
	S2545UH	87	24	5	<1	50	6	44	0.74	6.0	0.65
	S2543UH	87	51	6	<1	64	7	29	0.84	6.0	0.74
	1905	45	36	6	<1	59	7	34	0.80	6.0	0.70

※Solar spectrum  
 Ultraviolet rays: 300nm-380nm, Visible light: 380nm-780nm, Total solar energy: 300nm-2500nm  
 The indicated value is measured using 3mm float glass with each type of film applied, based on JIS A 5759  
 The values reported in the data are actual measured values and not guaranteed.  
 Total film thickness does not include the thickness of release liner

## Glossary

- [Visible light]** Visible solar radiation of wavelengths ranging from 380 nm to 780 nm accounts for about 45% of solar radiation energy. Glass transparency and natural lighting qualities can be preserved by maintaining transmission of visible light.
- [Ultraviolet rays]** Invisible solar radiation of wavelengths ranging from 300 nm to 380 nm. UV rays are harmful to human skin and can cause fading of interior furnishings.
- [Solar radiation]** Part of the energy irradiated by the sun as electromagnetic waves that reach the Earth in the wavelength range from 300 nm to 2,500 nm. Some solar radiation is transmitted through, reflected from, or absorbed by films.
- [Shading coefficient]** The proportion of solar radiation that passes through a 3mm float glass applied with a window film compared to that through a plain 3mm float glass. The smaller the shading coefficient, the less solar radiation enters the interior space.
- [U-value]** The U-value represents the thermal insulation performance; namely, the amount of heat passing per 1m<sup>2</sup> in one hour through a 3mm float glass applied with a window film under a temperature difference of 1°C between the two sides (unit: W/m<sup>2</sup>K). The smaller the U-value, the lower the amount of heat transmitted, the thermal insulation performance being superior.
- [Solar heat gain coefficient]** This solar heat gain coefficient is the proportion of the solar heat directly transmitted through a 3mm float glass with a window film, and the solar heat absorbed and subsequently released inward, compared to a plain 3mm float glass. The smaller the solar heat gain coefficient, the lower the amount of solar heat transmitted to indoor space.