

Optical Properties

Product code	Film thickness (μm)	Optical property									
		Visible light			UV transmission (%)	Total solar energy			Shading coefficient	U-Value (W/ m ² K)	Solar heat gain coefficient
		Transmitted (%)	Reflected (%)	UV transmission (%)		Transmitted (%)	Reflected (%)	Absorbed (%)			
OPTRON G	70	38	6	<1	53	7	40	0.76	6.0	0.67	
OPTRON G (EXTERIOR)	70	36	8	<1	53	9	38	0.75	6.0	0.66	
OPTRON B	70	30	5	<1	40	5	55	0.67	6.0	0.59	
OPTRON S	70	28	5	<1	37	5	58	0.64	6.0	0.56	
OPTRON SL	70	50	6	<1	55	6	39	0.78	6.0	0.69	
OPTRON GM	85	22	32	<1	20	38	42	0.39	5.9	0.34	
OPTRON CLEAR	77	89	9	<1	82	8	10	0.97	6.0	0.85	

※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 1m² 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/m²K). 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.