

## Optical Performance Properties

Product Code	Film thickness (μm)	Optical property								
		Visible light		UV transmission (%)	Total solar energy			Shading coefficient	U-Value (W/m <sup>2</sup> K)	Solar heat gain coefficient
		Transmitted (%)	Reflected (%)		Transmitted (%)	Reflected (%)	Absorbed (%)			
MST-5111 White Hemp	77	57	19	<1	58	14	28	0.77	6.0	0.68
MST-5112 Geometric White	77	62	17	<1	62	13	25	0.80	6.0	0.70
MST-5113 White Net	77	44	24	<1	48	17	35	0.68	6.0	0.60
MST-5114 Bamboo White	77	75	14	<1	72	11	17	0.88	6.0	0.77
MST-5115 White Arrow	77	37	16	<1	42	12	46	0.65	6.0	0.57
MST-5116 Framework	77	76	12	<1	72	10	18	0.89	6.0	0.78
MST-5117 Zebra Line	77	65	17	<1	63	14	23	0.81	6.0	0.71
MST-5118 Drip Line	77	63	20	<1	63	15	22	0.80	6.0	0.70
MST-5119 Random Line	77	48	19	<1	51	14	35	0.71	6.0	0.62
MST-5121 Black Hemp	77	46	6	<1	46	5	49	0.71	6.0	0.62
MST-5122 Geometric Black	77	49	7	<1	47	6	47	0.72	6.0	0.63
MST-5123 Black Net	77	41	7	<1	40	7	53	0.66	6.0	0.58
MST-5124 Black Bamboo	77	43	6	<1	42	5	53	0.68	6.0	0.60
MST-5125 Black Arrow	77	38	6	<1	38	6	56	0.65	6.0	0.57
MST-5131 White Dot Gradation	77	51	22	<1	54	17	29	0.72	6.0	0.63
MST-5132 White Line Gradation	77	41	23	<1	46	17	37	0.66	6.0	0.58
MST-5133 White Dot Gradation (Exterior)	105	48	26	<1	50	20	30	0.69	5.9	0.61
MST-5134 Cluster White	77	27	32	<1	32	25	43	0.65	6.0	0.57
MST-5135 Cluster White (Exterior)	105	24	42	<1	29	33	38	0.48	5.9	0.42
MST-5141 Black Dot Gradation	77	31	6	<1	32	6	62	0.60	6.0	0.53
MST-5142 Black Line Gradation	77	22	5	<1	22	5	73	0.54	6.0	0.48
MST-5143 Black Dot Gradation (Exterior)	105	32	8	<1	31	8	61	0.59	5.9	0.52
MST-5144 Cluster Black	77	1	5	<1	3	4	93	0.39	6.0	0.34
MST-5145 Cluster Black (Exterior)	105	1	8	<1	3	7	90	0.38	5.9	0.33
3mm float glass	—	90	8	74	86	8	6	1.00	6.0	0.88

※Solar spectrum Ultraviolet rays: 300nm ~ 380nm, Visible light transmission: 380nm ~ 780nm, Total solar energy: 300nm ~ 2,500nm

※The indicated value is measured using 3mm 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.

## 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.