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PALRAM

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Thermoplastic Sheets for Construction, Industry, Advertising and Agriculture

SUNTUF - Solar Transmission Properties

Product	%LT*	%HAZE*	%LR	%ST	%SR	%SA	%SRt	%STt**	SC	SHGC
Clear	90	<5	3	86	3	11	11	89	1.0	0.87
Clear Embossed	90	5 to 10	9	87	8	5	12	89	1.0	0.87
White Opal 30%	30	100	54	31	48	21	63	37	0.42	0.37
White Opal 35%	35	100	59	36	51	13	61	39	0.45	0.39
White Opal 40%	40	100	54	38	47	15	58	42	0.49	0.43
White Opal 45%	45	100	48	44	41	15	52	48	0.56	0.49
Diffuser 85%	85	100	16	77	13	10	20	80	0.92	0.80
Solar Grey 20%	20	5 to 10	4	27	4	69	54	46	0.53	0.46
Solar Grey 35%	35	5 to 10	3	43	2	55	43	57	0.66	0.57
Solar Control 20%	20	70 to 75	29	19	29	52	67	33	0.38	0.33
Solar Control 50%	50	35 to 40	25	46	25	29	46	54	0.62	0.54
Solar Ice 25%	25	100	53	27	46	27	65	35	0.40	0.35
Bronze 25%	25	5 to 10	7	32	7	61	51	49	0.56	0.49
Bronze 35%	35	5 to 10	3	41	3	56	44	56	0.64	0.56
Bronze 50%	50	5 to 10	4	53	4	43	35	65	0.74	0.64
Smooth Cream 30%	30	100	55	50	50	0	50	50	0.58	0.50
Mist Green 20%	20	100	25	31	26	43	57	43	0.50	0.44
Green 45%	45	<5	7	66	9	25	27	73	0.84	0.73
Blue 35%	35	<5	7	69	8	24	25	75	0.87	0.76
Red 20%	20	5 to 10	0.8	63	1.1	36	27	73	0.83	0.73
Smart Grey 20%	20	25 to 30	11	20	11	69	62	38	0.44	0.38
Smart Solar control 20%	20	75	30	16	29	55	69	31	0.36	0.31
Smart Ice 20%	20	100	53	22	48	30	69	31	0.35	0.30

- Valid for thickness of 0.8mm to 2.0mm.
- According to ASTM E424-71

* according to ASTM D-1003.
** STt is the percentage expression of solar heat gain coefficient (SHGC).

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Definitions

Visible Light Radiation
The portion of the light spectrum whose wavelength ranges from 400 nm to 700 nm.

% Light Transmission (%LT)
Percentage of incident visible light that passes through an object.

% Light Reflection (%LR)
Percentage of incident visible light that strikes an object and returns as visible light.

% Light Absorption (%LA)
Percentage of incident visible light that strikes an object and is absorbed by it.
%LT + %LR + %LA = 100%

Solar Radiation
The solar spectrum ranging from 300 nm to 2400 nm. Included are UV, visible and NIR radiation.

% Direct Solar Transmission (%ST)
Percentage of incident solar radiation that passes directly through an object.

% Solar Reflection (%SR)
Percentage of incident solar radiation that strikes an object and is reflected.

% Solar Absorption (%SA)
Percentage of incident solar radiation that strikes an object and is absorbed by it.
%ST + %SR + %SA = 100%

Total Solar Transmission (%STt)*
The percent of incident solar radiation transmitted by an object which includes the direct solar transmission plus the part of the solar absorption reradiated inward.

Total Solar Reflection (%SRt)
The percent of incident solar radiation reflected by an object, which includes the solar reflectance plus the part of the solar absorption, reradiated outward.
%STt + %SRt = 100%

Shading Coefficient (SC)
The ratio of the total solar radiation transmitted by a given material to that transmitted by normal glass, whose light transmission is 87%.
It can be approximately calculated by:
SC = 1.15 x (%ST + (0.27 x %SA)) / 100
%ST + (0.27 x %SA) = %STt
SC = 1.15 x STt /100