PERFORMANCE RESULTS

1/8" (3mm) Single pane clear	SOLAR ENERGY			VISIBLE LIGHT												
Product Name/Description	Transmittance %	Total solar absorptance %	Solar energy reflectance %	Transmittance %	Reflectance exterior %	Reflectance interior %	Emissivity	Winter U-factor (Btu hr/ft^2 °F)	Shading coefficient	Solar heat gain coefficient	Light to solar heat gain ratio (VLT/SHGC)	Ultraviolet light blocked @ 300 to 380 nm %	Total solar energy rejected %	Solar heat gain reduction (%)	Glare reduction (%)	Winter heat loss reduction (%)
Single clear	83	9	8	90	9	9	.84	1.04	.98	.86	1.05	27	14	-	-	-
LOW EMISSIVITY FILM																
Ecolux 70	43	29	28	68	13	4	.09	.61	.55	.48	1.41	>99	52	44	24	41
SPECTRALLY SELECTIVE FILMS																
Hilite® 80	54	21	25	80	9	10	.78	1.01	.69	.60	1.33	>99	40	30	11	3
Hilite® 70	37	28	35	72	9	9	.77	1.00	.52	.45	1.61	>99	55	48	20	4
Hilite® 55	34	36	30	59	8	8	.78	1.01	.51	.44	1.33	>99	56	48	34	3
Hilite® 40	27	43	30	42	6	7	.75	.99	.46	.40	1.05	>99	60	53	53	5
Hilite® 25	19	53	28	23	6	6	.77	1.00	.40	.35	.65	>99	65	59	75	4
Hilite® 15	17	60	23	12	5	6	.74	.99	.40	.35	.35	>99	65	60	87	5
CERAMIC FILMS																
CX 60	50	38	12	61	11	9	.85	1.04	.71	.62	.99	>99	38	28	32	0
CX 50	39	46	15	51	13	11	.83	1.03	.61	.53	.96	>99	47	38	44	1
CX 35	26	53	21	37	17	15	.79	1.01	.48	.42	.89	>99	58	51	59	3
SPECTRALLY SELECTIVE FILMS																
Sterling 70	61	22	17	75	13	12	.80	1.02	.77	.67	1.11	>99	33	22	17	2
Sterling 60	49	28	23	63	17	16	.78	1.01	.65	.57	1.11	>99	43	34	30	3
Sterling 50	35	33	32	49	26	24	.69	.96	.51	.44	1.12	>99	56	48	45	8
Sterling 40	28	34	38	41	33	30	.68	.95	.43	.37	1.11	>99	63	56	54	9
Sterling 20	15	37	48	23	45	42	.67	.95	.29	.25	.90	>99	75	71	75	9
DUAL REFLECTIVE FILMS																
Slate 40	34	43	23	44	18	12	.81	1.02	.54	.47	.94	>99	53	45	51	2
Slate 30	23	48	29	30	24	14	.84	1.04	.43	.37	.80	>99	63	56	67	0
Slate 20	16	48	36	23	31	17	.84	1.04	.35	.31	.74	>99	69	64	75	0
Slate 10	8	45	47	12	45	21	.82	1.03	.25	.22	.54	>99	78	75	87	1
SAFETY FILMS																
8 Mil Hilite® 70	38	30	32	72	10	10	.79	1.01	.54	.47	1.53	>99	53	45	20	3
8 Mil Slate 40	35	42	23	45	17	14	.78	1.00	.55	.48	.94	>99	52	44	50	4

1 Infrared rejection = 1 - average unweighted transmittance using ASTM E 903.
Performance results generated using LBNL Window 7.2 and NFRC standards. For full details and additional information please visit www.solargard.com/panorama.

PERFORMANCE RESULTS

1/4"
(6mm)
Single pane clear

Product Name/Description	SOLAR ENERGY			VISIBLE LIGHT												
	Transmittance %	Total solar absorptance %	Solar energy reflectance %	Transmittance %	Reflectance exterior %	Reflectance interior %	Emissivity	Winter U-factor (Btu hr/ft² °F)	Shading coefficient	Solar heat gain coefficient	Light to solar heat gain ratio (VLT/SHGC)	Ultraviolet light blocked @ 300 to 380 nm %	Total solar energy rejected %	Solar heat gain reduction (%)	Glare reduction (%)	Winter heat loss reduction (%)
Single clear	77	16	7	89	9	9	.84	1.02	.94	.82	1.08	34	18	-	-	-
LOW EMISSIVITY FILM																
Ecolux 70	41	37	22	67	13	4	.09	.60	.54	.47	1.43	>99	53	43	24	41
SPECTRALLY SELECTIVE FILMS																
Hilite® 80	50	31	19	79	9	10	.78	.99	.68	.59	1.34	>99	41	28	11	3
Hilite® 70	35	36	29	71	9	9	.77	.99	.53	.46	1.55	>99	54	44	20	3
Hilite® 55	32	45	23	58	8	8	.78	.99	.52	.46	1.28	>99	54	44	34	3
Hilite® 40	26	49	25	41	6	7	.75	.98	.47	.41	1.02	>99	59	50	53	4
Hilite® 25	18	61	21	23	6	6	.77	.99	.42	.36	.62	>99	64	55	75	3
Hilite® 15	15	68	17	12	5	6	.74	.97	.41	.35	.33	>99	65	57	87	5
CERAMIC FILMS																
CX 60	45	45	10	61	11	9	.85	1.03	.68	.59	1.02	>99	41	28	32	-1
CX 50	35	52	13	50	13	11	.83	1.02	.59	.51	.97	>99	49	37	44	0
CX 35	24	59	17	37	16	15	.79	1.00	.48	.42	.88	>99	58	49	59	2
SPECTRALLY SELECTIVE FILMS																
Sterling 70	55	31	14	74	13	12	.80	1.01	.74	.64	1.15	>99	36	22	17	1
Sterling 60	45	35	20	62	17	16	.78	.99	.64	.56	1.12	>99	44	32	30	3
Sterling 50	33	39	28	49	25	24	.69	.95	.51	.44	1.11	>99	56	46	45	7
Sterling 40	26	41	33	41	32	30	.68	.94	.43	.38	1.07	>99	62	54	54	8
Sterling 20	14	44	42	22	44	42	.67	.94	.30	.26	.84	>99	74	68	75	8
DUAL REFLECTIVE FILMS																
Slate 40	32	48	20	44	17	12	.81	1.01	.54	.47	.93	>99	53	43	51	1
Slate 30	21	54	25	29	23	14	.84	1.02	.43	.38	.78	>99	62	54	67	0
Slate 20	15	53	32	22	30	17	.84	1.02	.37	.32	.71	>99	68	61	75	0
Slate 10	8	51	41	12	43	21	.82	1.01	.27	.23	.49	>99	77	71	87	1
SAFETY FILMS																
8 Mil Hilite® 70	37	37	26	71	9	10	.79	.99	.55	.48	1.49	>99	52	42	20	3
8 Mil Slate 40	33	47	20	44	17	14	.78	.99	.54	.47	.94	>99	53	42	50	3

1 Infrared rejection = 1 - average unweighted transmittance using ASTM E 903.
Performance results generated using LBNL Window 7.2 and NFRC standards. For full details and additional information please visit www.solargard.com/panorama.

PANORAMA®
ELITE WINDOW FILM NETWORK

Solar Gard®
SAINT-GOBAIN

PERFORMANCE RESULTS

1/8" (3mm) Double pane clear

Product Name/Description	SOLAR ENERGY			VISIBLE LIGHT												
	Transmittance %	Total solar absorptance %	Solar energy reflectance %	Transmittance %	Reflectance exterior %	Reflectance interior %	Emissivity	Winter U-factor (Btu hr/ft² °F)	Shading coefficient	Solar heat gain coefficient	Light to solar heat gain ratio (VLT/SHGC)	Ultraviolet light blocked @ 300 to 380 nm %	Total solar energy rejected %	Solar heat gain reduction (%)	Glare reduction (%)	Winter heat loss reduction (%)
Single clear	69	18	13	81	16	16	.84	.48	.87	.76	1.08	41	24	-	-	-
LOW EMISSIVITY FILM																
Ecolux 70	37	37	26	62	19	8	.09	.34	.57	.49	1.25	>99	51	35	24	29
SPECTRALLY SELECTIVE FILMS																
Hilite® 80	46	30	24	73	16	15	.78	.47	.68	.59	1.23	>99	41	22	11	2
Hilite® 70	32	37	31	65	16	13	.77	.47	.56	.49	1.34	>99	51	35	20	2
Hilite® 55	30	43	27	54	15	11	.78	.47	.58	.50	1.06	>99	50	33	34	2
Hilite® 40	24	49	27	38	13	8	.75	.47	.55	.48	.79	>99	52	36	53	2
Hilite® 25	17	57	26	21	13	6	.77	.47	.54	.47	.44	>99	53	38	75	2
Hilite® 15	14	63	23	11	13	6	.74	.46	.55	.48	.23	>99	52	37	87	4
CERAMIC FILMS																
CX 60	42	42	16	56	18	12	.85	.48	.74	.64	.87	>99	36	15	31	0
CX 50	33	49	18	46	19	13	.83	.48	.68	.59	.78	>99	41	22	43	0
CX 35	22	56	22	34	22	17	.79	.48	.60	.52	.65	>99	48	32	58	0
SPECTRALLY SELECTIVE FILMS																
Sterling 70	52	28	20	68	19	17	.80	.48	.74	.64	1.05	>99	36	15	17	0
Sterling 60	41	35	24	58	22	19	.78	.47	.66	.58	1.00	>99	42	24	29	2
Sterling 50	30	40	30	45	30	26	.69	.46	.56	.49	.93	>99	51	35	44	4
Sterling 40	24	42	34	38	36	31	.68	.46	.50	.44	.88	>99	56	42	53	4
Sterling 20	13	45	42	21	47	43	.67	.45	.39	.34	.62	>99	66	55	74	6
DUAL REFLECTIVE FILMS																
Slate 40	29	48	23	40	23	13	.81	.48	.62	.54	.75	>99	46	29	50	0
Slate 30	19	53	28	28	29	15	.84	.48	.54	.47	.58	>99	53	38	66	0
Slate 20	14	53	33	21	34	17	.84	.48	.48	.42	.50	>99	58	45	74	0
Slate 10	7	52	41	11	46	21	.82	.48	.38	.33	.33	>99	67	56	86	0
SAFETY FILMS																
8 Mil Hilite® 70	33	39	28	65	16	14	.79	.47	.59	.51	1.28	>99	49	32	20	2
8 Mil Slate 40	30	47	23	41	23	15	.78	.47	.62	.54	.76	>99	46	29	49	2

1 Infrared rejection = 1 - average unweighted transmittance using ASTM E 903.
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PANORAMA®
ELITE WINDOW FILM NETWORK

Solar Gard®
SAINT-GOBAIN

PERFORMANCE RESULTS

1/4" (6mm) Double pane clear

Product Name/Description	SOLAR ENERGY			VISIBLE LIGHT												
	Transmittance %	Total solar absorptance %	Solar energy reflectance %	Transmittance %	Reflectance exterior %	Reflectance interior %	Emissivity	Winter U-factor (Btu hr/ft² °F)	Shading coefficient	Solar heat gain coefficient	Light to solar heat gain r atio (VLT/SHGC)	Ultraviolet light blocked @ 300 to 380 nm %	Total solar energy rejected %	Solar heat gain reduction (%)	Glare reduction (%)	Winter heat loss reduction (%)
Single clear	61	27	12	79	15	15	.84	.47	.81	.70	1.13	50	30	-	-	-
LOW EMISSIVITY FILM																
Ecolux 70	33	47	20	60	19	8	.09	.34	.55	.48	1.25	>99	52	32	24	28
SPECTRALLY SELECTIVE FILMS																
Hilite® 80	36	51	13	54	17	12	.85	.47	.70	.60	.89	>99	40	14	32	0
Hilite® 70	28	57	15	45	19	13	.83	.47	.65	.56	.79	>99	44	20	43	0
Hilite® 55	20	62	18	33	22	17	.79	.47	.58	.51	.65	>99	49	28	58	0
Hilite® 40	41	41	18	71	16	15	.78	.46	.66	.58	1.22	>99	42	18	11	2
Hilite® 25	30	47	23	64	15	13	.77	.46	.57	.50	1.27	>99	50	29	20	2
Hilite® 15	27	53	20	52	15	11	.78	.46	.59	.51	1.01	>99	49	27	34	2
CERAMIC FILMS																
CX 60	21	58	21	37	13	8	.75	.46	.56	.49	.76	>99	51	31	53	2
CX 50	15	67	18	20	13	6	.77	.46	.55	.48	.42	>99	52	32	75	2
CX 35	12	71	17	11	13	6	.74	.46	.55	.48	.22	>99	52	32	87	2
SPECTRALLY SELECTIVE FILMS																
Sterling 70	44	40	16	66	18	17	.80	.47	.70	.61	1.08	>99	39	13	17	0
Sterling 60	37	44	19	56	22	19	.78	.46	.64	.56	1.01	>99	44	21	29	2
Sterling 50	27	49	24	44	29	26	.69	.45	.55	.48	.92	>99	52	31	44	4
Sterling 40	22	51	27	37	34	31	.68	.45	.50	.44	.84	>99	56	38	53	4
Sterling 20	12	55	33	21	45	43	.67	.45	.41	.36	.57	>99	64	49	74	4
DUAL REFLECTIVE FILMS																
Slate 40	26	55	19	39	22	13	.81	.47	.60	.52	.75	>99	48	26	50	0
Slate 30	17	60	23	27	27	15	.84	.47	.54	.47	.57	>99	53	33	66	0
Slate 20	13	60	27	20	33	17	.84	.47	.49	.42	.48	>99	58	40	74	0
Slate 10	6	61	33	11	43	21	.82	.47	.41	.35	.30	>99	65	50	87	0
SAFETY FILMS																
8 Mil Hilite® 70	31	47	22	64	16	14	.79	.46	.59	.52	1.23	>99	48	27	20	2
8 Mil Slate 40	26	55	19	40	22	15	.78	.46	.60	.52	.76	>99	48	26	50	2

1 Infrared rejection = 1 - average unweighted transmittance using ASTM E 903.
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