Automotive Film Performance Measurements

	% Visible Light			% Total Solar Energy									
Film	Transmitted	Reflected	Glare Reduction	Transmitted	Reflected	Absorbed	Shading Coefficient (SC)	Solar Heat Gain Coefficient (SHGC)	U Factor	UV Rejection	Total Solar Energy Rejected (TSER)	IR Rejection*	Infrared Energy Rejection (IRER)
Black Pearl® HP 4	4%	5%	96%	27%	9%	64%	0.54	0.47	1.00	≥ 99%	53%	58%	43%
Black Pearl® HP 15	15%	5%	84%	31%	8%	61%	0.57	0.50	1.01	≥ 99%	50%	57%	41%
Black Pearl® HP 22	22%	6%	75%	33%	8%	59%	0.59	0.51	1.00	≥ 99%	49%	57%	42%
Black Pearl® HP 32	33%	6%	63%	41%	8%	51%	0.65	0.57	1.02	≥ 99%	43%	54%	40%
Black Pearl® HP 38	42%	8%	53%	44%	9%	47%	0.68	0.59	1.02	≥ 99%	41%	54%	39%
Black Pearl® NR 5	4%	5%	95%	44%	5%	51%	0.69	0.60	1.03	≥ 99%	40%	26%	20%
Black Pearl® NR 20	19%	5%	79%	48%	6%	47%	0.72	0.62	1.03	≥ 99%	38%	26%	21%
Black Pearl® NR 35	37%	5%	59%	58%	6%	37%	0.79	0.69	1.03	≥ 99%	31%	26%	20%
Black Pearl® NR 55	56%	6%	37%	65%	6%	29%	0.85	0.74	1.03	≥ 99%	27%	26%	21%
Black Pearl® NR 70	69%	7%	23%	69%	7%	25%	0.88	0.76	1.03	≥ 99%	24%	26%	20%
Onyx® 5	7%	5%	92%	32%	6%	62%	0.59	0.52	1.02	≥ 99%	49%	47%	34%
Onyx® 20	20%	5%	78%	34%	7%	59%	0.61	0.53	1.01	≥ 99%	47%	52%	38%
Onyx® 35	37%	6%	59%	42%	7%	51%	0.66	0.58	1.02	≥ 99%	43%	52%	38%
Onyx® 55	53%	8%	41%	49%	9%	43%	0.71	0.62	1.02	≥ 99%	38%	52%	38%
Charcool® 5	7%	5%	92%	48%	6%	46%	0.71	0.62	1.03	≥ 99%	38%	26%	21%
Charcool® 20	16%	5%	82%	52%	6%	42%	0.75	0.65	1.03	≥ 99%	35%	26%	20%
Charcool® 35	36%	6%	60%	59%	6%	34%	0.80	0.70	1.03	≥ 99%	30%	26%	21%
Charcool® 42	40%	6%	55%	61%	6%	33%	0.82	0.71	1.03	≥ 99%	29%	26%	20%
Charcool® 55	48%	6%	46%	64%	7%	30%	0.84	0.73	1.03	≥ 99%	27%	26%	20%
Charcool® 56	53%	6%	41%	64%	6%	29%	0.84	0.74	1.03	≥ 99%	27%	26%	20%
Charcoal 5	7%	5%	92%	48%	6%	46%	0.71	0.62	1.03	≥ 99%	38%	26%	21%
Charcoal 20	16%	5%	82%	52%	6%	42%	0.75	0.65	1.03	≥ 99%	35%	26%	20%
Charcoal 35	36%	6%	60%	59%	6%	34%	0.80	0.70	1.03	≥ 99%	30%	26%	21%

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	% Visible Light			% Total Solar Energy									
Film	Transmitted	Reflected	Glare Reduction	Transmitted	Reflected	Absorbed	Shading Coefficient (SC)	Solar Heat Gain Coefficient (SHGC)	U Factor	UV Rejection	Total Solar Energy Rejected (TSER)	IR Rejection*	Infrared Energy Rejection (IRER)
Black Pearl® NC 05	4%	5%	95%	9%	5%	86%	0.42	0.37	1.02	≥ 99%	63%	87%	60%
Black Pearl® NC 10	12%	5%	87%	13%	5%	82%	.0.45	0.38	1.05	≥ 99%	61%	87%	60%
Black Pearl® NC 20	21%	6%	76%	18%	5%	77%	0.49	0.43	1.02	≥ 99%	57%	87%	60%
Black Pearl® NC 35	38%	6%	57%	23%	5%	72%	0.53	0.46	1.02	≥ 99%	54%	87%	60%
Black Pearl® NC 45	43%	6%	52%	24%	5%	70%	0.54	0.47	1.02	≥ 99%	53%	87%	60%
Black Pearl® NC 55	52%	7%	41%	29%	6%	65%	0.57	0.50	1.02	≥ 99%	50%	87%	60%
Black Pearl® NC 75	72%	8%	19%	35%	6%	59%	0.61	0.53	1.02	≥ 99%	47%	87%	60%
Wincos® 10	11%	4%	88%	10%	4%	86%	0.43	0.38	1.02	≥ 99%	62%	91%	63%
Wincos® 20	22%	5%	75%	15%	5%	81%	0.47	0.41	1.02	≥ 99%	60%	92%	64%
Wincos® 30	34%	5%	62%	19%	5%	76%	0.50	0.44	1.02	≥ 99%	56%	91%	63%
Wincos® 45	49%	6%	45%	26%	5%	69%	0.55	0.48	1.03	≥ 99%	52%	90%	63%
Wincos® 60	66%	7%	26%	32%	5%	63%	0.59	0.52	1.02	≥ 99%	49%	91%	63%
Wincos® 70	75%	8%	16%	36%	5%	58%	0.63	0.54	1.04	≥ 99%	46%	90%	62%
Wincos® 90	87%	9%	3%	66%	7%	27%	0.85	0.74	1.00	≥ 99%	26%	57%	36%
Shadow 5	6%	5%	93%	47%	6%	48%	0.71	0.62	1.03	≥ 99%	38%	26%	20%
Shadow 20	22%	5%	75%	54%	6%	40%	0.77	0.67	1.03	≥ 99%	33%	26%	20%
Shadow 32	31%	5%	65%	57%	6%	37%	0.78	0.68	1.02	≥ 99%	32%	26%	21%
Shadow 38	42%	5%	53%	62%	6%	33%	0.82	0.72	1.03	≥ 99%	28%	25%	19%
Shadow 50	49%	6%	44%	64%	7%	30%	0.84	0.73	1.02	≥ 99%	27%	26%	21%
GP Max 5	5%	7%	94%	18%	21%	61%	0.41	0.36	0.95	≥99%	64%	81%	63%
GP Max 20	20%	6%	78%	40%	8%	52%	0.65	0.57	1.02	≥99%	43%	49%	35%
GP Max 35	35%	7%	61%	41%	9%	49%	0.65	0.57	1.01	≥99%	43%	58%	41%
GP Max 45	47%	8%	48%	51%	9%	40%	0.73	0.64	1.02	≥99%	37%	48%	35%

Read in accordance with National Fenestration Rating Council (NFRC) standards and calculated on single pane 6mm (1/4") clear glass.
*IR Rejection is tested in the IR range of 780 to 2500 nanometers.

Reported values are typical properties and should not be used as a specification. Since only the user is aware of the specific conditions in which the product is to be used, it is the user's responsibility to determine whether the product is suitable for that intended use. If the specific conditions of use are critically dependent on any of the properties of the product, or if you need further information, contact Madico, Inc. or your local Madico film dealer.

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