

RETAIL FILM PERFORMANCE DATA



Film

Film	% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorbance	% Visible Light Transmittance	% Visible Reflectance (exterior)	% Visible Reflectance (interior)	Winter U-value	Shading Coefficient	% Ultraviolet Ray Protection (wavelengths 300-380nm)	Emissivity	Solar Heat Gain Coefficient	% Total Solar Energy Rejected	Light-to-Solar Heat Gain Ratio (LSC)****	% Summer Solar Heat Gain Reduction***	% Winter Heat Loss Reduction***	% Glare Reduction***
Clear Glass	83	8	9	90	8	8	1.04	0.99	29	0.84	0.86	14	1.05	0	0	0
R Series	R films are scratch-resistant, shield 99% of ultraviolet rays, and provide excellent heat rejection.															
RN07G SR CDF (One-Way Mirror)	7	57	36	6	61	14	0.88	0.19	99	0.54	0.16	84	0.38	81	15	93
R15B SR CDF (Bronze)	8	39	53	8	20	62	0.89	0.25	99	0.62	0.22	78	0.36	74	14	91
R15BL SR PS (Blue)	9	42	49	9	27	62	0.93	0.25	>99	0.63	0.22	78	0.41	74	11	90
R15G SR CDF (Gray)	7	36	57	6	13	62	0.92	0.26	99	0.62	0.23	77	0.26	73	12	93
R15GO SR PS (Gold)	10	53	37	13	52	63	0.92	0.23	>99	0.62	0.20	80	0.65	77	12	86
R20 SR CDF (Silver)	11	57	32	15	62	63	0.90	0.22	>99	0.58	0.20	80	0.75	77	13	83
R35 SR CDF (Silver)	21	45	34	28	47	46	0.91	0.35	>99	0.61	0.30	70	0.93	65	13	69
R50 SR CDF (Silver)	39	27	34	49	26	25	0.95	0.55	99	0.67	0.47	53	1.04	45	9	46
Dual-Series	Dual-Series films are scratch-resistant, shield 99% of ultraviolet rays, and provide excellent heat rejection.															
DR05 SR CDF (Warm Gray)*	7	58	35	6	61	16	0.89	0.18	>99	0.56	0.16	84	0.38	81	14	93
DR15 SR CDF (Warm Gray)	18	38	44	17	37	13	0.92	0.34	99	0.62	0.30	70	0.57	65	12	81
DRN25 SR CDF (Warm Gray)	23	31	46	22	30	12	0.92	0.39	99	0.62	0.35	65	0.63	59	12	76
DRN35 SR CDF (Warm Gray)	33	22	45	35	21	13	0.95	0.52	99	0.67	0.46	54	0.76	47	9	61
D Series	D films are scratch-resistant, reduce 99% of ultraviolet rays, and come in gray and bronze.															
DL05G SR CDF (Gray)	14	26	7	11	9	8	0.95	0.51	>99	0.68	0.31	69	0.23	64	9	92
DL15B SR CDF (Bronze)	27	14	59	14	8	8	0.94	0.51	99	0.72	0.44	56	0.32	49	10	84
DL15G SR CDF (Gray)	27	14	59	16	9	8	0.93	0.51	99	0.71	0.44	56	0.36	49	11	82
DL30GN SR PS (Green)	32	18	50	33	14	14	0.99	0.53	>99	0.75	0.48	52	0.69	44	5	63
N Series	N films are scratch-resistant and shield 99% of ultraviolet rays.															
N1020 SR CDF (Neutral)	21	27	52	23	30	27	1.03	0.42	>99	0.82	0.37	63	0.62	57	1	74
N1040 SR CDF (Neutral)	34	17	49	37	19	16	1.05	0.56	99	0.85	0.49	51	0.76	43	-1	59
N1050 SR CDF (Neutral)	46	12	42	50	14	11	1.07	0.68	99	0.89	0.59	41	0.85	31	-3	44
N1065 SR CDF (Neutral)	64	9	27	69	10	8	1.07	0.83	99	0.90	0.72	28	0.96	16	-3	23
N1020B SR CDF (Bronze)	13	49	38	21	37	35	0.90	0.27	>99	0.59	0.23	77	0.91	73	13	77
N1035B SR CDF (Bronze)	26	37	37	37	26	23	0.92	0.41	99	0.61	0.36	64	1.03	58	12	59
E Series	Provide excellent heat rejection performance.															
NHE20 ER HPR (Neutral)	21	29	50	23	30	26	1.04	0.42	>99	0.86	0.36	64	0.64	58	0	74
NHE35 ER HPR (Neutral)	34	18	48	38	19	16	1.04	0.56	>99	0.86	0.49	51	0.78	43	0	58
RHE20 ER HPR (Silver)	12	63	25	16	62	59	1.04	0.22	>99	0.71	0.20	80	0.80	77	0	82
RHE35 ER HPR (Silver)	21	50	29	29	48	45	1.04	0.35	>99	0.72	0.30	70	0.97	65	0	68
RHE50 ER HPR (Silver)	38	30	32	49	26	24	1.04	0.55	>99	0.79	0.48	52	1.02	44	0	46
THE 80 BL ER (Clear)	41	6	53	78	9	9	1.04	0.66	>99	0.89	0.57	43	1.37	34	0	13
SHE CL ER PS4 (Clear)	82	8	10	89	9	9	1.02	0.97	>99	0.90	0.85	15	1.05	1	2	1
SHE CL ER PS7 (Clear)	81	8	11	89	9	9	1.04	0.97	>99	0.84	0.84	16	1.06	2	0	1
Sp Series	is an ideal solution to help protect interior furnishings from sun damage. It provides a high level of protection against harmful UV rays without altering glass aesthetics. AIR-80BL SR HPR is used where a combination of extremely low visible reflectance, high light transmission, and substantial reduction in solar infrared transmission is needed.															
AIR80 BL SR HPR (Clear)	43	7	50	79	9	9	1.07	0.67	>99	0.89	0.58	42	1.36	33	-3	12
AIR90 CL SR HPR (Clear)	63	7	30	85	9	9	1.07	0.83	>99	0.89	0.72	28	1.18	16	-3	6
AU85 UV SR HPR (UVCL-Clear)	82	9	9	89	10	10	1.07	0.97	>99	0.90	0.84	16	1.06	2	-3	1
C Series	C films provide an insulating barrier to that improves year-round energy efficiency by helping retain heat in winter and helping keep the heat out in summer. Low Emissivity films are perfect for residential and commercial applications where energy conservation is of primary importance.															
LE35 SR CDF	20	43	37	29	36	39	0.71	0.32	>99	0.29	0.28	72	1.04	67	32	68
LE50 SR CDF	37	30	33	51	22	24	0.81	0.51	>99	0.41	0.45	55	1.13	48	22	43

*Developmental data, based on data obtained during product development and is subject to change. Data was captured using the National Fenestration Rating Council's (NFRC) standard guidelines for film solar performance measurement as measured on single pane, 1/8 inch (3mm). Reported values are taken from representative product samples and are subject to normal manufacturing variances. Actual performance will vary based on a number of factors, including glass type and properties. ****These are calculated numbers which may differ between similar products due to averaging and rounding. ©Northern Performance Films, LLC. All rights reserved. No liability is accepted for errors. (01/23) L2278



Protection Film SPEC

Series	Model	Thickness	Coating	Base Material	Pressure Sensitive Adhesive	Product Specification	Packing	Packing size*
Clear PPF	H65	6.5mil	0.4mil	5.1mil	1mil	1.52*15m	1Roll / CTN	160*21*19cm
		165µm	10µm	130µm	25µm	60*590in		
	H70	7mil	0.4mil	5.6mil	1mil	1.52*15m	1Roll / CTN	160*21*19cm
		178µm	10µm	142µm	25µm	60*590in		
	D1-75	7.5mil	0.4mil	6.1mil	1mil	1.52*15m	1Roll / CTN	160*21*19cm
		190µm	10µm	155µm	25µm	60*590in		
N1-80	8.0mil	0.4mil	6.6mil	1mil	1.52*15m	1Roll / CTN	160*21*19cm	
	203µm	10µm	167µm	25µm	60*590in			
D2-85	8.5mil	0.4mil	7.1mil	1mil	1.52*15m	1Roll / CTN	160*21*19cm	
	215µm	10µm	180µm	25µm	60*590in			
N2-100	10mil	0.4mil	8.6mil	1mil	1.52*15m	1Roll / CTN	160*21*19cm	
	254µm	10µm	218µm	25µm	60*590in			
Matte PPF	M75	7.5mil 190µm	0.4mil 10µm	6.1mil 155µm	1mil 25µm	1.52*15m 60*590in	1Roll / CTN	160*21*19cm
Color PPF	B75/W75	7.5mil 190µm	0.4mil 10µm	6.1mil 155µm	1mil 25µm	1.52*15m 60*590in	1Roll / CTN	160*21*19cm
Manufacturing		Norden Protect USA/Germany/S-Korea*						
		Note: Product thickness might vary in few batches between 0-11µm*						
		Note: Packing size might vary from batch to batch and country to country*						