



# FLAT GLASS FILM SPECIFICATIONS

on 1/8" Clear Glass



Johnson Window Films' solar control flat glass films on clear glass reject 99% or more of harmful UV rays.

FILM TYPE	COLOR	VISIBLE LIGHT TRANSMISSION	SOLAR ENERGY REJECTION	VISIBLE LIGHT REFLECTANCE		SHADING COEFFICIENT	SOLAR HEAT GAIN COEFFICIENT	U-FACTOR NFRC	SOLAR ABSORPTION	GLARE REDUCTION	FADING REDUCTION	IRER   SHRR REJECTION 780-2500 nm		HEAT LOAD REDUCTION RATING
				Exterior	Interior									
CLEAR GLASS	clear	89%	14%	8%	8%	0.99	0.86	1.04	10%	0%	-	N/A	N/A	not rated

## Sunlight. SPECTRALLY-SELECTIVE CLEAR SOLAR PROTECTION

<b>SUN 70</b>	natural	67%	50%	19%	17%	0.58	0.50	.99	34%	25%	60%	66%	79%	★★★★☆
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## Palisade. PREMIUM NANO-CERAMIC SOLAR PROTECTION

<b>PD 50</b>	natural	48%	48%	9%	8%	0.59	0.51	1.05	57%	44%	65%	54%	74%	not rated
<b>PD 45</b>	natural	44%	53%	15%	12%	0.53	0.46	1.03	54%	47%	67%	61%	80%	★★★★☆
<b>PD 40</b>	natural	38%	60%	23%	16%	0.45	0.39	1.01	52%	56%	70%	67%	84%	★★★★☆
<b>PD 75 EXT*</b>	natural	76%	40%	8%	9%	0.69	0.60	1.04	49%	10%	56%	56%	79%	not rated

\* Designed for exterior (EXT) use only. This is a spectrally-selective film.

## NightScape. DUAL REFLECTIVE, NON-SPUTTERED FILMS

<b>NS 35</b>	neutral	36%	50%	17%	11%	0.57	0.50	1.01	43%	60%	68%	49%	60%	★★★★☆
<b>NS 25</b>	neutral	24%	65%	33%	16%	0.40	0.35	.95	44%	73%	75%	66%	77%	★★★★☆
<b>NS 15</b>	neutral	14%	72%	40%	11%	0.33	0.28	.95	45%	84%	79%	70%	81%	★★★★★
<b>NS 07</b>	neutral	8%	73%	39%	7%	0.31	0.27	.95	48%	91%	81%	70%	80%	★★★★★
<b>NS 05</b>	neutral	6%	69%	12%	12%	0.36	0.31	.98	61%	94%	80%	68%	79%	★★★★★

## ScenicView. DUAL REFLECTIVE, NON-FADING FILMS

<b>SV 50</b>	neutral	50%	44%	16%	12%	0.65	0.56	1.05	40%	44%	63%	46%	58%	not rated
<b>SV 35</b>	neutral	38%	56%	24%	17%	0.50	0.44	1.02	46%	57%	70%	62%	77%	★★★★☆
<b>SV 25</b>	neutral	27%	67%	38%	25%	0.38	0.33	1.00	42%	70%	75%	70%	84%	★★★★☆
<b>SV 10</b>	neutral	8%	82%	58%	25%	0.21	0.18	1.01	41%	91%	83%	83%	95%	★★★★★
<b>SV 50 EXT*</b>	neutral	45%	50%	19%	13%	0.57	0.50	1.04	44%	49%	66%	55%	69%	★★★★☆
<b>SV 25 EXT*</b>	neutral	29%	66%	36%	23%	0.39	0.34	1.04	39%	67%	74%	70%	82%	★★★★☆
<b>SV 10 EXT*</b>	neutral	9%	82%	56%	24%	0.21	0.18	1.04	36%	90%	83%	84%	94%	★★★★★

\* Designed for exterior (EXT) use only.

## DaylightNatural. NEUTRAL, NON-FADING SPUTTERED FILMS

<b>DN 60</b>	neutral	63%	30%	11%	9%	0.81	0.70	1.07	29%	30%	56%	27%	36%	not rated
<b>DN 50</b>	neutral	49%	39%	14%	11%	0.70	0.61	1.07	39%	45%	62%	37%	49%	not rated
<b>DN 35</b>	neutral	37%	45%	18%	16%	0.63	0.55	1.06	43%	58%	67%	41%	53%	not rated
<b>DN 20</b>	neutral	22%	60%	26%	26%	0.46	0.40	1.06	52%	75%	74%	58%	74%	★★★★☆
<b>DN 15</b>	neutral	18%	62%	19%	16%	0.44	0.38	1.06	64%	80%	76%	60%	81%	★★★★☆
<b>DN 35 EXT*</b>	neutral	37%	49%	16%	18%	0.60	0.51	1.04	48%	59%	68%	41%	53%	not rated
<b>DN 20 EXT*</b>	neutral	22%	63%	26%	26%	0.43	0.37	1.04	54%	75%	75%	59%	74%	★★★★☆

\* Designed for exterior (EXT) use only.

## Sunset Bronze. COPPER, NON-FADING SPUTTERED FILMS

<b>SB 30</b>	bronze	33%	66%	27%	24%	0.39	0.34	.98	36%	63%	73%	72%	81%	★★★★☆
<b>SB 20</b>	bronze	20%	77%	37%	34%	0.26	0.23	.97	35%	77%	79%	83%	91%	★★★★☆

## Solar Silver. SILVER, NON-FADING METALLIZED FILMS

<b>SS 35</b>	silver	35%	65%	40%	39%	0.41	0.35	.96	35%	61%	72%	69%	80%	★★★★☆
<b>SS 20</b>	silver	19%	77%	57%	57%	0.26	0.23	.95	34%	79%	79%	79%	89%	★★★★★
<b>SS 35 EXT*</b>	silver	35%	64%	40%	38%	0.41	0.36	1.04	30%	61%	72%	70%	80%	★★★★☆
<b>SS 20 EXT*</b>	silver	20%	75%	52%	49%	0.28	0.25	1.04	31%	78%	78%	79%	88%	★★★★★

\* Designed for exterior (EXT) use only.

## Architectural COLOR METALLIZED SOLAR CONTROL FILMS

<b>MBL 35</b>	blue silver	35%	50%	11%	18%	0.57	0.50	1.02	46%	61%	68%	49%	60%	★★★★☆
<b>MBL 20</b>	blue silver	19%	68%	21%	42%	0.37	0.32	.96	50%	78%	77%	72%	58%	★★★★☆
<b>MGN 35</b>	green silver	35%	48%	9%	15%	0.59	0.52	1.03	48%	61%	68%	45%	56%	not rated
<b>MGN 20</b>	green silver	19%	68%	18%	41%	0.37	0.32	.96	53%	79%	77%	70%	81%	★★★★☆
<b>MGD 35</b>	gold silver	32%	65%	35%	39%	0.40	0.35	.97	38%	64%	73%	69%	80%	★★★★☆
<b>MGD 20</b>	gold silver	17%	77%	50%	57%	0.26	0.23	.95	38%	81%	80%	80%	89%	★★★★★

## Specialty Series. DECORATIVE SPECIAL APPLICATION FILMS

<b>UV CLR</b>	clear	91%	12%	8%	8%	1.01	0.88	1.10	6%	0%	45%	N/A	N/A	not rated
<b>WHTFST*</b>	white	75%	24%	18%	19%	0.88	0.76	1.10	11%	16%	49%	N/A	N/A	not rated
<b>WHTOUT</b>	white	DUE TO LIGHT SCATTERING - NFRC MEASUREMENTS ARE NOT MEANINGFUL												
<b>BLKOUT</b>	black	0%	70%	6%	6%	0.36	0.30	1.10	93%	100%	82%	N/A	N/A	★★★★★
<b>SS20AB</b>	silver	19%	77%	57%	57%	0.26	0.23	.95	33%	78%	79%	N/A	N/A	★★★★★
<b>SS20AB EXT</b>	silver	20%	75%	52%	49%	0.28	0.25	1.04	31%	77%	78%	N/A	N/A	★★★★★
<b>PRT2CLR</b>	clear	89%	15%	10%	10%	0.98	0.85	1.07	9%	0%	N/A	N/A	N/A	not rated
<b>PRT2WOUT</b>	white	14%	71%	60%	79%	0.34	0.29	1.10	43%	84%	N/A	N/A	N/A	not rated

\* White Frost does not have a recommendation from the Skin Cancer Foundation.



The Skin Cancer Foundation recommends Johnson Window Films products as effective UV protectants.

All Johnson Window Films are protected by CST™ scratch resistant hardcoat.

Solar specifications represent film mounted to 1/8" (3mm) clear glass.

Tests, equipment and methods according to ASTM, ANSI and NFRC standards. Calculations performed using Lawrence Berkeley Lab's Optics/Window 6. Values expressed hereof are typical and provided for comparative purposes only.

Only the user is aware of the conditions in which the product will be used.

It is the user's responsibility to determine if the product is suitable for use.



Johnson Window Films

Manufactured by Johnson Laminating & Coating, Inc.

An ISO 9001:2015 Certified Company

www.johnsonwindowfilms.com



# TERMS AND DEFINITIONS

## FLAT GLASS FILM SPECIFICATIONS

### VISIBLE LIGHT TRANSMISSION

Visible Light Transmission is the percentage of solar visible light (daylight) that passes through a glazing system.

### SOLAR ENERGY REJECTED

Solar Energy Rejected is the percentage of total solar energy (heat) that is rejected away from a glazing system. This equals solar heat reflectance plus the amount of solar heat absorbed that is then re-radiated outwards.

### EXTERIOR REFLECTANCE

Exterior Reflectance is the percentage of reflectivity (mirror effect) that occurs on the outside of a glazing system. The higher the value, the more reflective the exterior, providing a more mirror-like appearance.

### INTERIOR REFLECTANCE

Interior Reflectance is the percentage of reflectivity (mirror effect) that occurs on the inside of a glazing system. The higher the value, the more reflective the interior, providing a more mirror-like appearance.

### SHADING COEFFICIENT

Shading Coefficient is the ratio of solar heat gain passing through a glazing system to the solar heat gain that occurs under the same conditions if the window were made of clear, un-shaded double strength window glass (lower SC equals better solar shading performance).

### SOLAR HEAT GAIN COEFFICIENT

Solar Heat Gain Coefficient is the percentage of total solar heat that enters a glazing system. This includes heat directly transmitted as well as heat that is absorbed by the glass and then transmitted inwards (lower SHGC means less heat transfer from the exterior to the interior).

### U-FACTOR NFRC

U-Factor (or U-Value) is a measurement of solar heat transfer due to outdoor/indoor temperature differences. This represents the amount of heat passing through one square foot of glass in one hour for each 1 degree Fahrenheit temperature difference between the indoor and outdoor. The lower the U-Factor the less solar heat passes through a window of interest for keeping heat inside a building in colder climates.

### SOLAR ABSORPTION

Solar Absorption is the percentage of total solar heat that is neither transmitted through nor rejected away from a glazing system (i.e. the percentage of total solar heat absorbed by the glazing system).

### GLARE REDUCTION

The ratio of the difference in visible transmission of the glass before and after installing film to the visible transmission of the glass with no film. Expressed as a percentage and is determined by the respective visible transmission values of the glass with and without film.

### FADING REDUCTION

Combined fading percentages are determined by applying rejection percentages on each cause of fading to determine the overall reduction in fade that a specific product can return.

Using the IWFA fading explanation found at [www.iwfa.com](http://www.iwfa.com)

### INFRARED ENERGY REJECTION (IRER)

The measurement of heat experienced from solar infrared radiation (780 - 2,500 nm), which includes both re-radiated and absorbed energy.

### SELECTIVE IR REJECTION (SIRR)

Solar infrared radiation (780 - 2,500 nm) not directly transmitted through the glass.

### HEAT LOAD REDUCTION RATING

Heat load reduction rating is based on the Solar Heat Gain Coefficient to determine which products offer the most in energy savings.



**Johnson Window Films**

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