

## ESSENTIALS

Quality safety and security film for commercial & residential applications

Life In A Better Light.





## Clear 4 Mil

Type: Safety Color: Clear

Product Code: CL 400 PS SR

V	Total Solar Energy:
A T	Transmitted %         82.0           Reflected %         8.0           Absorbed %         9.0
E D	Visible Light:           Transmitted %         89.0           Reflected Exterior %         9.0           Reflected Interior %         9.0           Glare Reduction %         0.90
ANA	Solar Heat Gain Coefficient         0.85           Shading Coefficient         0.98           Luminous Efficacy         0.91           Total Solar Energy Rejection %         15.0           Infrared Rejection %*         20.0
R	U-Factor       1.04         Emissivity       0.87         Ultraviolet Rejection %       exceeds 99.0
0	Physical Properties:
ш	Film Thickness
~	Structure Single Ply Adhesive Type Acrylic Pressure Sensitive
ш	Activity Person Activity Activity Person Per
۵	Peel Strength 5 to 6 pounds Per Inch

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm.

Note: Please refer to the last page for further detail regarding testing and performance data.

<sup>•</sup> Independent test reports available upon request.

## Clear 7 Mil

Type: Safety Color: Clear

Product Code: CL 700 PS SR

## SAFETY & SECURITY SERIES

Total Solar Energy:
Transmitted %         81.0           Reflected %         8.0           Absorbed %         11.0
Visible Light:           Transmitted %         89.0           Reflected Exterior %         9.0           Reflected Interior %         9.0           Glare Reduction %         1.0
Solar Heat Gain Coefficient         0.85           Shading Coefficient         0.97           Luminous Efficacy         0.91           Total Solar Energy Rejection %         15.0           Infrared Rejection %*         24.0
U-Factor       1.07         Emissivity       0.91         Ultraviolet Rejection %       exceeds 99.0
Physical Properties:         0.008"           Film Thickness         0.008"           Structural Component         0.007"           Structure         Single Ply           Adhesive Type         Acrylic Pressure Sensitive           Tensile Strength ◆         25,000 PSI Avg. MD/TD           Break Strength ◆         175 Pounds Per Inch (Width)           Peel Strength ◆         5 to 6 pounds Per Inch

#### Clear 7 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.70	0.74	0.73	1.10
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.63	0.67	0.66	0.71
Non Residential	6 mm (1/4") clear	0.73	0.71	0.78	0.76	1.03
Non Residential	6 mm (1/4") grey	0.52	0.52	0.39	0.39	1.03
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.63	0.69	0.68	0.60
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.41	0.35	0.34	0.60

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

## Clear 7 Mil Exterior

Type: Safety Color: Clear

Product Code: CL 700 E PS SR

## SAFETY & SECURITY SERIES

V	Total Solar Energy:
T A	Transmitted %         83.0           Reflected %         9.0           Absorbed %         8.0
CED	Visible Light:           Transmitted %         88.0           Reflected Exterior %         10.0           Reflected Interior %         9.0           Glare Reduction %         2.0
A	Solar Heat Gain Coefficient         0.84           Shading Coefficient         0.97           Luminous Efficacy         0.91           Total Solar Energy Rejection %         15.0           Infrared Rejection %*         18.0
R	U-Factor       1.10         Emissivity       0.93         Ultraviolet Rejection %       exceeds 99.0
ERFO	Physical Properties:  Film Thickness
۵	Peel Strength 5 to 6 pounds Per Inch

## Clear 7 Mil Exterior Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film
Residential	3 mm (1/8") clear	0.72	0.70	0.74	0.73
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.62	0.67	0.66
Non Residential	6 mm (1/4") clear	0.73	0.71	0.78	0.77
Non Residential	6 mm (1/4") grey	0.52	0.51	0.39	0.39
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.61	0.69	0.68
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.53	0.35	0.34

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

## Clear 8 Mil

Type: Safety Color: Clear

Product Code: CL 800 PS SR

## SAFETY & SECURITY SERIES

V	Total Solar Energy:
T A	Transmitted %       79.0         Reflected %       8.0         Absorbed %       13.0
E D	Visible Light:           Transmitted %         87.0           Reflected Exterior %         10.0           Reflected Interior %         9.0           Glare Reduction %         3.0
ANC	Solar Heat Gain Coefficient         0.83           Shading Coefficient         0.95           Luminous Efficacy         0.92           Total Solar Energy Rejection %         17.0           Infrared Rejection %*         28.0
R	U-Factor       1.07         Emissivity       0.90         Ultraviolet Rejection %       exceeds 99.0
PERFO	Physical Properties:           Film Thickness         0.0095"           Structural Component         0.008"           Structure         Multi-Ply Laminate           Adhesive Type         Acrylic Pressure Sensitive           Tensile Strength*         25,000 PSI Avg. MD/TD           Break Strength*         200 Pounds Per Inch (Width)           Peel Strength*         5 to 6 pounds Per Inch

#### Clear 8 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.69	0.74	0.71	1.10
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.62	0.67	0.64	0.71
Non Residential	6 mm (1/4") clear	0.73	0.70	0.78	0.75	1.03
Non Residential	6 mm (1/4") grey	0.52	0.51	0.39	0.38	1.03
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.62	0.69	0.67	0.60
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.41	0.35	0.33	0.60

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

## Clear 14 Mil

Type: Safety Color: Clear

Product Code: CL 1400 PS SR

V	Total Solar Energy:
A T	Transmitted %       78.0         Reflected %       8.0         Absorbed %       14.0
E D	Visible Light:           Transmitted %         87.0           Reflected Exterior %         9.0           Reflected Interior %         9.0           Glare Reduction %         3.0
AN	Solar Heat Gain Coefficient         0.82           Shading Coefficient         0.95           Luminous Efficacy         0.91           Total Solar Energy Rejection %         17.0           Infrared Rejection %*         28.0
R	U-Factor       1.05         Emissivity       0.88         Ultraviolet Rejection %       exceeds 99.0
0	Physical Properties: Film Thickness
R	Structural Component
PE	Tensile Strength • 25,000 PSI Avg. MD/TD Break Strength • 325 Pounds Per Inch (Width) Peel Strength • 5 to 6 pounds Per Inch

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm.

Note: Please refer to the last page for further detail regarding testing and performance data.

<sup>•</sup> Independent test reports available upon request.

## Graffiti Free 4 Mil

Type: Anti-Graffiti Color: Clear

Product Code: Graffiti Free 400 PS SR

V	Total Solar Energy:
T A	Transmitted %       84.0         Reflected %       9.0         Absorbed %       7.0
CEDA	Visible Light:         Transmitted %       90.0         Reflected Exterior %       9.0         Reflected Interior %       9.0         Glare Reduction %       0.0
N	Solar Heat Gain Coefficient         0.85           Shading Coefficient         0.99           Luminous Efficacy         0.90           Total Solar Energy Rejection %         14.0           Infrared Rejection %*         18.0
R	U-Factor       1.10         Emissivity       0.95         Ultraviolet Rejection %       exceeds 99.0
0	Physical Properties:
ш	Film Thickness 0.004" Structural Component 0.004"
~	Structure Single Ply Adhesive Type Acrylic Pressure Sensitive
ш	Tensile Strength
۵	Peel Strength 3 to 4 pounds Per Inch

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm.

Note: Please refer to the last page for further detail regarding testing and performance data.

<sup>•</sup> Independent test reports available upon request.

## Graffiti Free 6 Mil

Type: Anti-Graffiti Color: Clear

Product Code: Graffiti Free 600 PS SR

V	Total Solar Energy:
T A	Transmitted %         81.0           Reflected %         10.0           Absorbed %         10.0
E D	Visible Light:           Transmitted %         87.0           Reflected Exterior %         10.0           Reflected Interior %         10.0           Glare Reduction %         3.0
AN	Solar Heat Gain Coefficient         0.83           Shading Coefficient         0.96           Luminous Efficacy         0.91           Total Solar Energy Rejection %         17.0           Infrared Rejection %*         23.0
R	U-Factor       1.02         Emissivity       0.87         Ultraviolet Rejection %       exceeds 99.0
0	Physical Properties: Film Thickness 0.007"
ш	Structural Component 0.006" Structure Multi-Ply Laminate
PER	Adhesive Type Acrylic Pressure Sensitive Tensile Strength

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm.

Note: Please refer to the last page for further detail regarding testing and performance data.

<sup>•</sup> Independent test reports available upon request.

## Silver 40 4 Mil

Type: Safety Color: Silver

Product Code: RS 40 PS SR 4 Mil

## SAFETY & SECURITY SERIES

V	Total Solar Energy:
T A	Transmitted %       34.0         Reflected %       28.0         Absorbed %       38.0
CED	Visible Light:       44.0         Transmitted %       44.0         Reflected Exterior %       28.0         Reflected Interior %       26.0         Glare Reduction %       51.0
A	Solar Heat Gain Coefficient         0.45           Shading Coefficient         0.51           Luminous Efficacy         0.87           Total Solar Energy Rejection %         55.0           Infrared Rejection %*         79.0
R	U-Factor       0.95         Emissivity       0.68         Ultraviolet Rejection %       exceeds 99.0
PERFO	Physical Properties:           Film Thickness         0.005"           Structural Component         0.0045"           Structure         Multi-Ply Laminate           Adhesive Type         Acrylic Pressure Sensitive           Tensile Strength*         25,000 PSI Avg. MD/TD           Break Strength*         100 Pounds Per Inch (Width)           Peel Strength*         5 to 6 pounds Per Inch

## Silver 40 4 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.38	0.74	0.36	1.01
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.43	0.67	0.33	0.68
Non Residential	6 mm (1/4") clear	0.73	0.40	0.78	0.38	0.93
Non Residential	6 mm (1/4") grey	0.52	0.35	0.39	0.19	0.93
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.45	0.69	0.35	0.57
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.32	0.35	0.17	0.57

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

## Silver 20 4 Mil

Type: Safety Color: Silver

Product Code: RS 20 PS SR 4 Mil

## SAFETY & SECURITY SERIES

V	Total Solar Energy:
T A	Transmitted %       13.0         Reflected %       53.0         Absorbed %       34.0
CED	Visible Light:         18.0           Transmitted %         57.0           Reflected Exterior %         57.0           Reflected Interior %         57.0           Glare Reduction %         80.0
AN	Solar Heat Gain Coefficient         0.22           Shading Coefficient         0.25           Luminous Efficacy         0.71           Total Solar Energy Rejection %         78.0           Infrared Rejection %*         94.0
R	U-Factor         0.91           Emissivity         0.60           Ultraviolet Rejection %         exceeds 99.0
PERFO	Physical Properties:  Film Thickness

## Silver 20 4 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.20	0.74	0.15	0.98
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.27	0.67	0.14	0.66
Non Residential	6 mm (1/4") clear	0.73	0.23	0.78	0.15	0.90
Non Residential	6 mm (1/4") grey	0.52	0.26	0.39	0.08	0.90
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.31	0.69	0.14	0.56
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.24	0.35	0.07	0.56

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

## Silver 40 8 Mil

Type: Safety Color: Silver

Product Code: RS 40 PS SR 8 Mil

## SAFETY & SECURITY SERIES

V	Total Solar Energy:
A T	Transmitted %       34.0         Reflected %       28.0         Absorbed %       38.0
4	Visible Light:
D	Transmitted % 44.0 Reflected Exterior % 28.0
ш	Reflected Interior % 27.0 Glare Reduction % 51.0
U	Solar Heat Gain Coefficient 0.45
z	Solar Heat Gain Coefficient 0.45 Shading Coefficient 0.51 Luminous Efficacy 0.86
V	Total Solar Energy Rejection % 55.0 Infrared Rejection %* 80.0
Σ	U-Factor
~	Emissivity
0	Physical Properties:
ш	Film Thickness
_	Structural Component
8	Adhesive Type
ш	Tensile Strength •
۵	Peel Strength • 5 to 6 pounds Per Inch

## Silver 40 8 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.38	0.74	0.36	1.02
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.43	0.67	0.33	0.68
Non Residential	6 mm (1/4") clear	0.73	0.40	0.78	0.38	0.94
Non Residential	6 mm (1/4") grey	0.52	0.35	0.39	0.19	0.94
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.45	0.69	0.34	0.57
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.32	0.35	0.17	0.57

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

## Silver 20 8 Mil

Type: Safety Color: Silver

Product Code: RS 20 PS SR 8 Mil

## SAFETY & SECURITY SERIES

V	Total Solar Energy:
T A	Transmitted %       13.0         Reflected %       52.0         Absorbed %       35.0
CEDI	Visible Light:         Transmitted %       17.0         Reflected Exterior %       57.0         Reflected Interior %       58.0         Glare Reduction %       81.0
AN	Solar Heat Gain Coefficient         0.22           Shading Coefficient         0.25           Luminous Efficacy         0.70           Total Solar Energy Rejection %         78.0           Infrared Rejection %*         94.0
R	U-Factor       0.90         Emissivity       0.58         Ultraviolet Rejection %       exceeds 99.0
0	Physical Properties:
ш	Film Thickness 0.010" Structural Component 0.0085"
PER	Structure Multi-Ply Laminate Adhesive Type Acrylic Pressure Sensitive Tensile Strength 25,000 PSI Avg. MD/TD Break Strength 200 Pounds Per Inch (Width) Peel Strength 5 to 6 pounds Per Inch
	나이들이 눈이 되는 계속이 되었다면 하면 가장 하는 것이 되었다면 하는데

## Silver 20 8 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.20	0.74	0.14	0.96
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.27	0.67	0.13	0.66
Non Residential	6 mm (1/4") clear	0.73	0.22	0.78	0.15	0.88
Non Residential	6 mm (1/4") grey	0.52	0.26	0.39	0.07	0.89
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.31	0.69	0.14	0.55
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.24	0.35	0.07	0.55

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

# **Neutral Grey 45 8 Mil**

Type: Safety

Color: Neutral Grey

Product Code: NG 45 PS SR 8 Mil

## SAFETY & SECURITY SERIES

V	Total Solar Energy:
T A	Transmitted %       37.0         Reflected %       16.0         Absorbed %       47.0
E D	Visible Light:       44.0         Transmitted %       44.0         Reflected Exterior %       14.0         Reflected Interior %       17.0         Glare Reduction %       51.0
ANC	Solar Heat Gain Coefficient         0.50           Shading Coefficient         0.58           Luminous Efficacy         0.76           Total Solar Energy Rejection %         50.0           Infrared Rejection %*         73.0
R	U-Factor       0.97         Emissivity       0.71         Ultraviolet Rejection %       exceeds 99.0
0	Physical Properties:
ш	Film Thickness
K	Structure Multi-Ply Laminate Adhesive Type Acrylic Pressure Sensitive
ш	Tensile Strength •
۵	Peel Strength •

## Neutral Grey 45 8 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.43	0.74	0.36	1.02
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.48	0.67	0.33	0.68
Non Residential	6 mm (1/4") clear	0.73	0.45	0.78	0.38	0.94
Non Residential	6 mm (1/4") grey	0.52	0.37	0.39	0.19	0.94
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.49	0.69	0.34	0.57
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.34	0.35	0.17	0.57

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

# Neutral Grey 35 8 Mil

Type: Safety

Color: Neutral Grey

Product Code: NG 35 PS SR 8 Mil

## SAFETY & SECURITY SERIES

A	Total Solar Energy:
ATA	Transmitted %         30.0           Reflected %         18.0           Absorbed %         52.0
CED	Visible Light:       36.0         Transmitted %       36.0         Reflected Exterior %       15.0         Reflected Interior %       22.0         Glare Reduction %       60.0
A	Solar Heat Gain Coefficient         0.45           Shading Coefficient         0.52           Luminous Efficacy         0.69           Total Solar Energy Rejection %         55.0           Infrared Rejection %*         79.0
R	U-Factor         0.98           Emissivity         0.73           Ultraviolet Rejection %         exceeds 99.0
PERFO	Physical Properties:       Film Thickness     0.010"       Structural Component     0.0085"       Structure     Multi-Ply Laminate       Adhesive Type     Acrylic Pressure Sensitive       Tensile Strength*     25,000 PSI Avg. MD/TD       Break Strength*     200 Pounds Per Inch (Width)       Peel Strength*     5 to 6 pounds Per Inch

#### Neutral Grey 35 8 Mil Performance on Installed Windows as Certified by the NFRC\*\*

Туре	Default Glazing Reference	SHGC w/o Film	SHGC with Film	VLT w/o Film	VLT with Film	U-Factor with Film
Residential	3 mm (1/8") clear	0.72	0.39	0.74	0.29	1.03
Residential †	3 mm (1/8") clear 3 mm (1/8") clear	0.64	0.45	0.67	0.27	0.68
Non Residential	6 mm (1/4") clear	0.73	0.40	0.78	0.31	0.95
Non Residential	6 mm (1/4") grey	0.52	0.35	0.39	0.16	0.95
Non Residential †	6 mm (1/4") clear 6 mm (1/4") clear	0.63	0.47	0.69	0.28	0.57
Non Residential †	6 mm (1/4") grey 6 mm (1/4") clear	0.41	0.33	0.35	0.14	0.57

<sup>\*</sup> IR Rejection based on average transmission from 780-2500nm. \*\* As certified by the National Fenestration Rating council (NFRC)

<sup>†</sup> Dual pane window. Note: Please refer to the last page for further detail regarding testing and performance data.

Independent test reports available upon request.

# Film Specification Terminology

#### DEFINITIONS

**SOLAR TRANSMISSION** % is the ratio of the amount of solar energy in the full solar wavelength range (300–2,500 nm) that passes directly through a glazing system to the amount of solar energy falling on that glazing system.

**SOLAR REFLECTION** % is the ratio of the amount of solar energy in the full solar wavelength range (300–2,500 nm) that is directly reflected by the glazing system to the amount of solar energy falling on that glazing system.

**SOLAR ABSORPTION** % is the ratio of the amount of solar energy in the full solar wavelength range (300–2,500 nm) that is directly absorbed by the glazing system to the amount of solar energy falling on that glazing system.

VISIBLE LIGHT TRANSMISSION (VLT) % is the ratio of visible solar energy in the range (380–780 nm) that passes through a given glazing system to the total visible solar energy falling on the system.

**VISIBLE LIGHT REFLECTION** % is the ratio of visible solar energy in the range (380–780 nm) that is reflected by a given glazing system to the total visible solar energy falling on the system.

**GLARE REDUCTION** is the reduction in visible light transmitted compared to clear, unfilmed glass.

**SOLAR HEAT GAIN COEFFICIENT** is similar to the shading coefficient, except this value also takes into account energy that is reradiated back into the room from the glass heating up due to increased absorption. A lower number means better heat rejection.

**SHADING COEFFICIENT** is the ratio of solar heat gain through a given glazing system to that of a standard glass pane under the same test conditions. It is a measure of the sun control capability. The lower the shading coefficient, the more efficient the glazing system.

LUMINOUS EFFICACY % is the ratio of light transmission and shading coefficient.

**TOTAL SOLAR ENERGY REJECTION** % is the ratio of the amount of total solar energy in the full solar wavelength range (300–2,500 nm) that is prevented from passing through a glazing system to the amount of total solar energy falling on that glazing system.

## Film Specification Terminology

#### DEFINITIONS

**INFRARED REJECTION** % is the amount of total solar infrared radiation in the range (780–2500 nm) prevented from passing through a glazing system.

**U-FACTOR** is a measure of the rate of heat conductivity of a glazing system and is independent of solar radiation. When multiplied by the difference between indoor and outdoor temperatures in Fahrenheit (F), it gives the amount of heat conducted in BTUs/hour/square foot of glazing. The lower the U-Factor, the better the heat loss reduction.

**EMISSIVITY** is a measure of the ability of a product to reflect long wave room radiant energy. The lower the emissivity, the higher the ability of the material in question to retain the room's heat.

**ULTRAVIOLET (UV) REJECTION** % is the ratio of solar energy in the range (300–380 nm) that is transmitted by a glazing system to the total solar UV energy falling on the glazing.

**SOLAR ENERGY** is solar radiant energy that contacts the exterior surface of a window and is reflected, absorbed and transmitted. The total of these three parameters equals 100%.

**SOLAR HEAT REDUCTION** % is the ratio of the difference in total solar energy entering before and after installing film on the glass to that entering through the glass with no film.

**TENSILE STRENGTH** is the value of a 1" x 1" square of film being pulled apart in the same manner as the film break strength test. It is generally calculated up from the break strength and reported in pounds per square inch, (PSI).

**BREAK STRENGTH** is the actual load or force at which fracture occurs measured in pounds per inch (width). Break strength is a function of tensile strength.

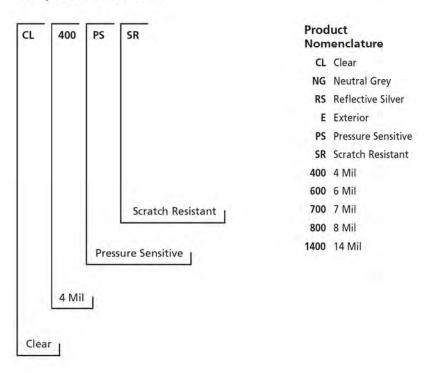
**PEEL STRENGTH** is the force necessary to remove a coated material adhered to a prescribed surface from that surface measured in pounds per inch.

# Madico Safety & Security

**Product Code System** 

## NOMENCLATURE

The Product Code System consists of alternate groups of letters and numbers identifying the characteristics of the composites of our films.



## Madico Standard Performance Data:

Read in accordance with National Fenestration Rating Council (NFRC) standards on center of 3mm unframed, clear glass.

Performance data is based on film applied to 1/8" clear, monolithic, annealed glass. 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 of any sort, contact Madico or your local Madico window film dealer.



#### FSSFNTIAIS

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