
COSMO SUNSHIELD
SAVE • PROTECT • ENHANCE
Aesthetic Enhancement
UV Protection
Glare Reduction
Multiple Colour Options
SUNBRELLA FILMS
#SPFforWindows | #SafetyforWindows

FUNDAMENTALS OF SOLAR SPECTRUM

Visible Light- 44%

- Range of light that people can perceive with eyes

Infrared Ray- 53%

- Invisible to eyes
- Source of Heat

UV Rays- 3%

- Invisible to eyes
- Harmful rays causes sunburn & skin cancer, discoloration of materials

Both living and non-living things are significantly affected by solar radiation in the wavelength ranges of 100-380 nm, which consist of harmful UV rays, and 780-2500 nm, which encompass IR rays. Managing the blocking of these harmful UV and IR rays while maintaining maximum visible light transmission is a challenging task. Our developed technologies, incorporating various pigments, dyes, chemicals, and films, are designed to effectively block UV and IR rays while allowing the passage of visible light. Cosmo Sunshield films are engineered to provide visibility according to customer preferences, with UV ray rejection exceeding 99% and IR heat rejection of up to 90%.

DEFINITIONS OF SOLAR PARAMETERS

VLT (Visible Light Transmission)

VLT is the light that enters the structure through the glass. Visible light wavelength ranges from 380 to 700 nm in the sun spectrum.

UVR (Ultra Violet Rejected)

UV radiation is a type of electromagnetic radiation emitted by the sun and is invisible to the human eye. UVR is the amount of UV rays stopped from entering interior space. Wavelength for UV in the solar spectrum is in the range 100-380nm.

Relevance to the consumer: This is a very important factor in the purchase of window films. Excessive UV rays is the most dangerous part of the solar spectrum for human health. It is one of the causes of cataract and skin cancer. UV ray is also the biggest factor in damage to drapes, carpets & furniture, though shorter wavelengths of visible light may play an important role as well. UV rays blocking is also important for the longevity and effectiveness of film.

IRR (Infra Red Rejected)

IRR is the amount of Infra Red (IR) energy that is blocked by the film, either by reflecting or absorbing. Wavelength for IR in the solar spectrum is in the range of 780-2500nm.

Relevance to the consumer: This is another important factor in the purchase of window films. Too much of incoming IR rays will make the space very hot and uncomfortable to stay inside. Both Capex and Opex for air-conditioning will go up to maintain a comfortable temperature inside if IR rays are not screened.

GR (Glare Reduction)

Glare Reduction refers to the process or ability of reducing or minimizing the intensity and discomfort caused by excessive brightness or glare of light.

SC (Shading Coefficient)

Shading Coefficient is the ratio of amount of solar heat that is transmitted through a filmed window to the amount of solar heat that would be transmitted through a single-pane clear glass with the same dimensions.

SHGC (Solar Heat Gain Coefficient)

Solar Heat Gain Coefficient represents the fraction of solar radiation that enters a building through the glazing and contributes to the overall heat gain. A lower SHGC value indicates that the window or glazing system is more effective in reducing solar heat gain, as it allows less solar radiation to pass through.

TSER (Total Solar Energy Rejected)

The total solar energy rejected refers to the amount of solar energy that is prevented from entering a space or building by a specific material or device designed to reduce solar heat gain.

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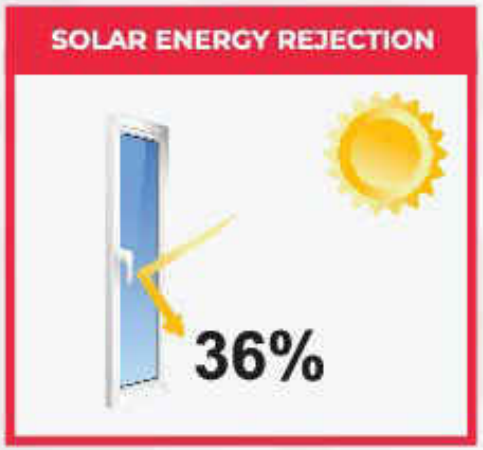
CHARCOAL

NON REFLECTIVE

CS-111-CH 05

1Ply 1Mil

Solar Properties	
Visible Light Transmission	5%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	14%
Total Solar Energy Rejected	36%
Glare Reduction	94%
Shading Coefficient	0.72
SHGC (G-Value)	0.64



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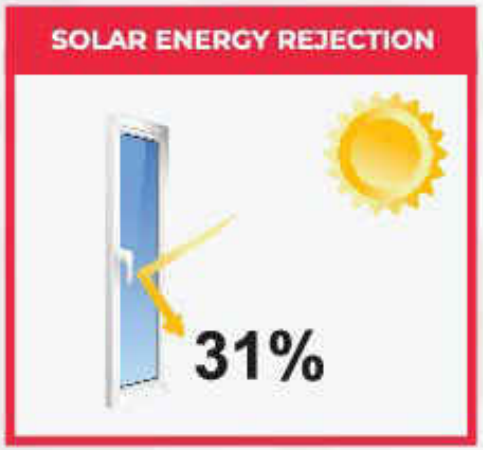
CHARCOAL

NON REFLECTIVE

CS-111-CH 20

1Ply 1Mil

Solar Properties	
Visible Light Transmission	20%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	12%
Total Solar Energy Rejected	31%
Glare Reduction	78%
Shading Coefficient	0.78
SHGC (G-Value)	0.69



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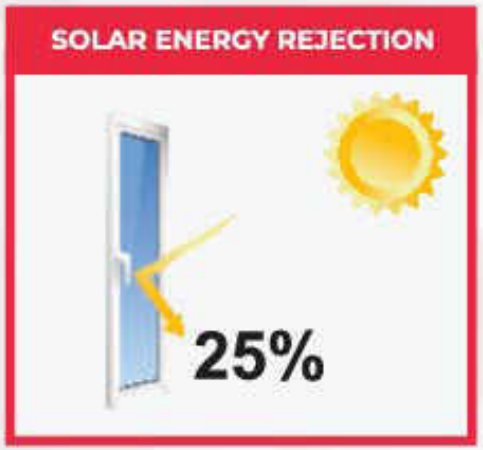
CS-111-CH 35

1Ply 1Mil

Solar Properties	
Visible Light Transmission	35%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	12%
Total Solar Energy Rejected	25%
Glare Reduction	61%
Shading Coefficient	0.84
SHGC (G-Value)	0.75



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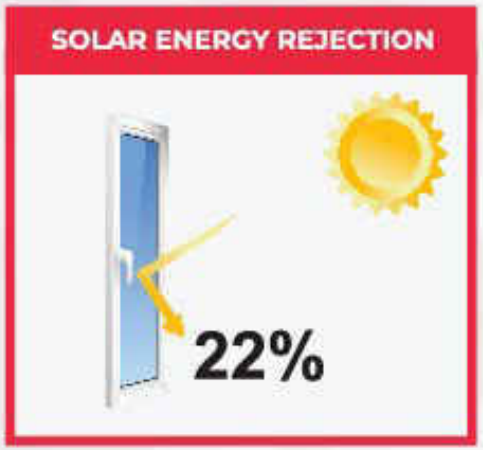
NON REFLECTIVE

CS-111-CH 50

1Ply 1Mil

Solar Properties	
Visible Light Transmission	50%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	20%
Total Solar Energy Rejected	22%
Glare Reduction	44%
Shading Coefficient	0.88
SHGC (G-Value)	0.78



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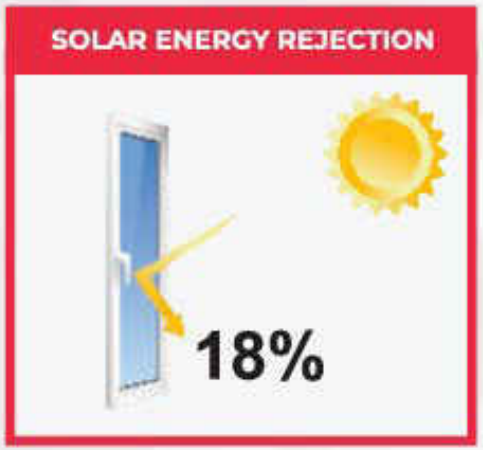
CHARCOAL

NON REFLECTIVE

CS-111-CH 70

1Ply 1Mil

Solar Properties	
Visible Light Transmission	69%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	19%
Total Solar Energy Rejected	18%
Glare Reduction	23%
Shading Coefficient	0.92
SHGC (G-Value)	0.83



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GREY

NON REFLECTIVE

CS-131-GR 05

1Ply 1Mil

Solar Properties	
Visible Light Transmission	5%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	14%
Total Solar Energy Rejected	37%
Glare Reduction	94%
Shading Coefficient	0.71
SHGC (G-Value)	0.63

VISIBLE LIGHT TRANSMISSION

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GREY

NON REFLECTIVE

CS-131-GR 20

1Ply 1Mil

Solar Properties	
Visible Light Transmission	20%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	13%
Total Solar Energy Rejected	31%
Glare Reduction	78%
Shading Coefficient	0.78
SHGC (G-Value)	0.69

VISIBLE LIGHT TRANSMISSION

SOLAR ENERGY REJECTION

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GREY

NON REFLECTIVE

CS-131-GR 35

1Ply 1Mil

Solar Properties	
Visible Light Transmission	35%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	12%
Total Solar Energy Rejected	24%
Glare Reduction	61%
Shading Coefficient	0.85
SHGC (G-Value)	0.76

VISIBLE LIGHT TRANSMISSION

SOLAR ENERGY REJECTION

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GREY

NON REFLECTIVE

CS-131-GR 50

1Ply 1Mil

Solar Properties	
Visible Light Transmission	50%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	12%
Total Solar Energy Rejected	19%
Glare Reduction	44%
Shading Coefficient	0.91
SHGC (G-Value)	0.81

VISIBLE LIGHT TRANSMISSION

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GREY

NON REFLECTIVE

CS-131-GR 70

1Ply 1Mil

Solar Properties	
Visible Light Transmission	70%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	19%
Total Solar Energy Rejected	18%
Glare Reduction	22%
Shading Coefficient	0.92
SHGC (G-Value)	0.82

VISIBLE LIGHT TRANSMISSION

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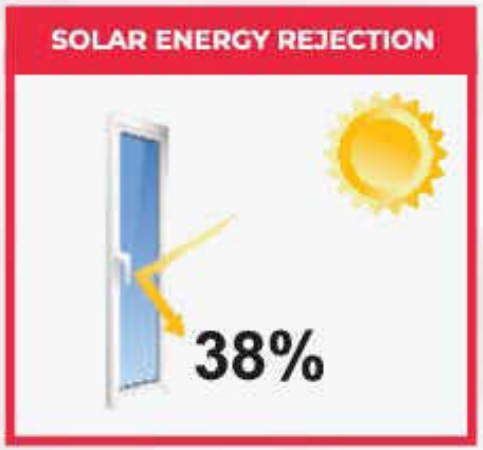
BLACK

NON REFLECTIVE

CS-141-BL 05

1Ply 1Mil

Solar Properties	
Visible Light Transmission	5%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	20%
Total Solar Energy Rejected	38%
Glare Reduction	94%
Shading Coefficient	0.69
SHGC (G-Value)	0.62



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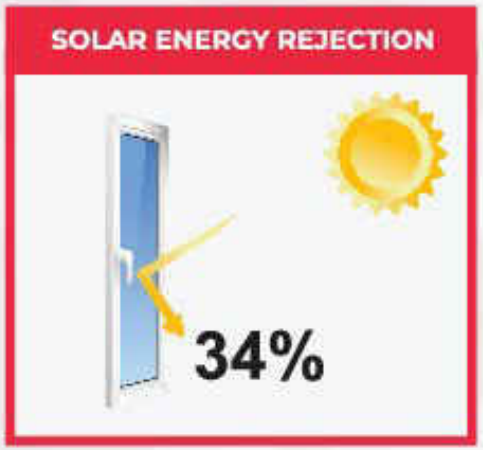
BLACK

NON REFLECTIVE

CS-141-BL 15

1Ply 1Mil

Solar Properties	
Visible Light Transmission	15%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	18%
Total Solar Energy Rejected	34%
Glare Reduction	83%
Shading Coefficient	0.74
SHGC (G-Value)	0.66



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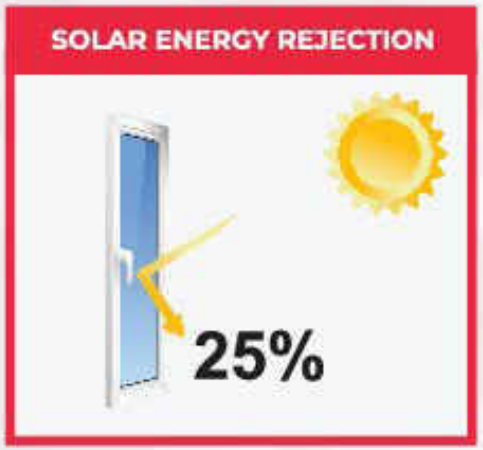
BLACK

NON REFLECTIVE

CS-141-BL 35

1Ply 1Mil

Solar Properties	
Visible Light Transmission	35%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	18%
Total Solar Energy Rejected	25%
Glare Reduction	61%
Shading Coefficient	0.84
SHGC (G-Value)	0.74



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BLACK

NON REFLECTIVE

CS-141-BL 50

1Ply 1Mil

Solar Properties	
Visible Light Transmission	50%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	17%
Total Solar Energy Rejected	21%
Glare Reduction	44%
Shading Coefficient	0.88
SHGC (G-Value)	0.79

VISIBLE LIGHT TRANSMISSION

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BLACK

NON REFLECTIVE

CS-141-BL 70

1Ply 1Mil

Solar Properties	
Visible Light Transmission	68%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	19%
Total Solar Energy Rejected	18%
Glare Reduction	24%
Shading Coefficient	0.91
SHGC (G-Value)	0.81

VISIBLE LIGHT TRANSMISSION

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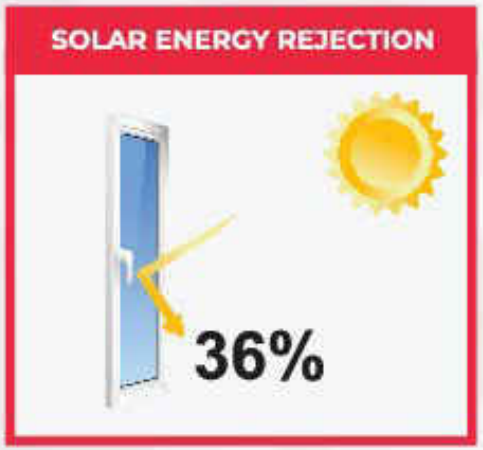
SUNBRELLA

ORCHID BLUE NON REFLECTIVE

CS-171-OCB 05

1Ply 1Mil

Solar Properties	
Visible Light Transmission	5%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	18%
Total Solar Energy Rejected	36%
Glare Reduction	94%
Shading Coefficient	0.72
SHGC (G-Value)	0.64



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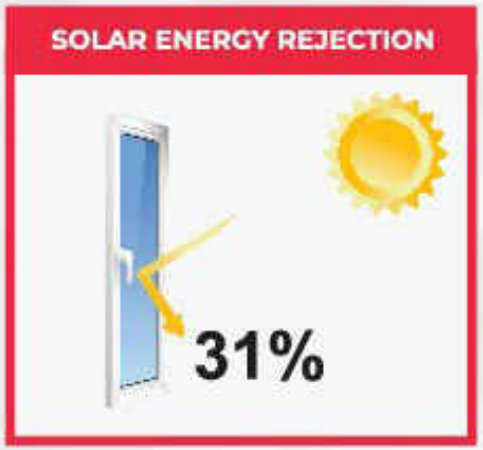
ORCHID BLUE NON REFLECTIVE

CS-171-OCB 20

1Ply 1Mil

Solar Properties	
Visible Light Transmission	20%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	18%
Total Solar Energy Rejected	31%
Glare Reduction	78%
Shading Coefficient	0.84
SHGC (G-Value)	0.74



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SUNBRELLA

GREEN

NON REFLECTIVE

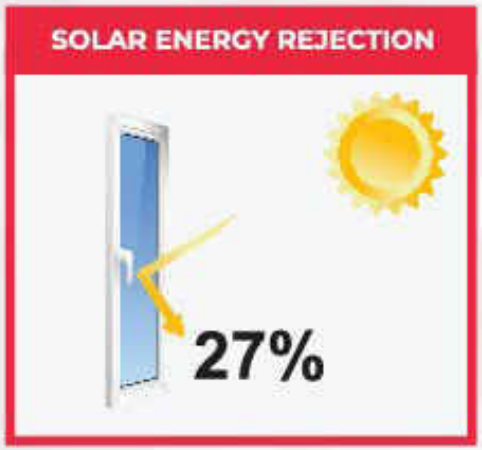
CS-161-GN 35

1Ply 1Mil

Solar Properties	
Visible Light Transmission	39%
Ultra Violet Rejected	>98%
Infra Red Heat Rejected	17%
Total Solar Energy Rejected	27%
Glare Reduction	57%
Shading Coefficient	0.82
SHGC (G-Value)	0.73

VISIBLE LIGHT TRANSMISSION

SOLAR ENERGY REJECTION



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GREEN

NON REFLECTIVE

CS-161-GN 50

1Ply 1Mil

Solar Properties	
Visible Light Transmission	51%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	19%
Total Solar Energy Rejected	25%
Glare Reduction	43%
Shading Coefficient	0.85
SHGC (G-Value)	0.75

VISIBLE LIGHT TRANSMISSION

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GREEN

NON REFLECTIVE

CS-161-GN 70

1Ply 1Mil

Solar Properties	
Visible Light Transmission	70%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	19%
Total Solar Energy Rejected	19%
Glare Reduction	21%
Shading Coefficient	0.91
SHGC (G-Value)	0.81

VISIBLE LIGHT TRANSMISSION

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SUNBRELLA

BROWN

NON REFLECTIVE

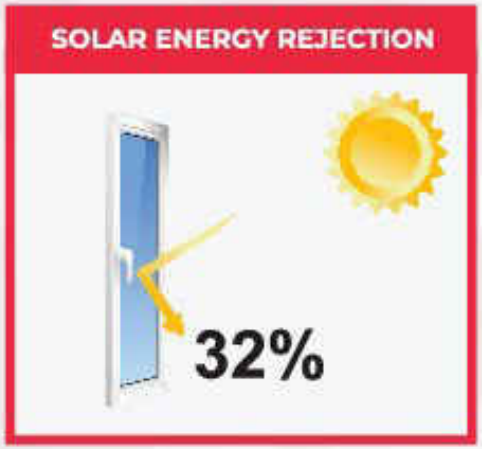
CS-175-BN 15

1Ply 1Mil

Solar Properties	
Visible Light Transmission	19%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	17%
Total Solar Energy Rejected	32%
Glare Reduction	79%
Shading Coefficient	0.77
SHGC (G-Value)	0.68

VISIBLE LIGHT TRANSMISSION

SOLAR ENERGY REJECTION



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BROWN

NON REFLECTIVE

CS-175-BN 35

1Ply 1Mil

Solar Properties	
Visible Light Transmission	41%
Ultra Violet Rejected	>99%
Infra Red Heat Rejected	19%
Total Solar Energy Rejected	26%
Glare Reduction	54%
Shading Coefficient	0.83
SHGC (G-Value)	0.74

VISIBLE LIGHT TRANSMISSION

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Notes

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