



# UNIVERSAL

## CAR + HOME & OFFICE SOLUTIONS

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## WINDOW FILM TERMINOLOGY

The following definitions will help you understand Universaltint window film terminology as you view the various performance specification sheets.

### PLY

Ply is used to display the number of separate layers of polyester film that are used in the manufacturing process to make a particular window film product. Example: A 1-ply product would consist of one single layer of polyester film where a 3-ply product would be made with three separate layers of various types of polyester film.

### MIL THICKNESS

Mil is the unit of measurement equal to one thousandth of an inch (.001"). Mil thickness is used in the GWF nomenclature to display the overall thickness of the window film product. 1 MIL = 25 micron

### SOLAR ENERGY TRANSMITTED

Solar energy transmitted is the ratio of the total solar energy passing through the glazing system to the amount of total solar energy falling on that glazing system.

### SOLAR ENERGY ABSORBED

Solar energy absorbed is the ratio of the amount of total solar energy directly absorbed by the glazing system to the amount of total solar energy falling on that glazing system.

### SOLAR ENERGY REFLECTED

Solar energy reflected is the ratio of the amount of the total solar energy directly reflected by the glazing system to the amount of total solar energy falling on that glazing system.

### VISIBLE LIGHT TRANSMITTED (VLT)

Visible light transmitted is the ratio of visible solar energy (380 – 750nm) that passes through the glazing system to the total visible solar energy falling on the glazing system.

### VISIBLE LIGHT REFLECTED (VLR)

Visible light rejected is the total percentage of visible light reflected by a glazing system that can be seen visually. GWF performance results includes Interior and exterior VLR specifications on all films.

### ULTRAVIOLET REJECTED (UVR)

Ultraviolet rejected is the ratio of ultraviolet solar energy (wavelength of 300 – 380nm) that is transmitted by a glazing system to the total solar ultraviolet energy falling on the glazing system. Note: UV energy is not visible to human eye and is mainly responsible for the degradation and fading of organic matter, upholstery, colors, etc.

### SHADING COEFFICIENT (SC)

Shading coefficient is the ratio of the solar heat gain through a given glazing system to the solar heat gain under the same conditions for clear, unshaded double strength window glass. The lower the shading coefficient number, the better the sun control capability of the glazing system.

### SOLAR HEAT REDUCTION (SHR)

Solar heat reduction, is the reduction in solar energy gained by a building from the sun, often by the addition of solar control window film.

### TOTAL SOLAR ENERGY REJECTED (TSER)

Total Solar Energy Rejected is the percentage of the total solar energy that is rejected. TSER includes visible light, infrared radiation and ultraviolet energy.

### GLARE REDUCTION (GR)

Glare reduction is the percentage of reduction in visible light transmission through a glazing system without film to that with film.

### EMISSIVITY (E)

Emissivity is a measure of surface's ability to absorb or reflect far-infrared radiation. The lower the emissivity the higher the far-infrared reflection. Infrared radiation is that which is sensed by the body as heat. The lower the emissivity rating, the better the insulating qualities of the glazing system.

### NIRB

Near Infra Red Blocking

### U-VALUE

U-value is a measure of the rate of heat conductivity of a glazing system, independent of solar radiation. When multiplied by the difference between indoor and outdoor temperature in Fahrenheit, it gives the amount of heat in BTUs/hours/square foot of glazing. Note: the greater the difference between indoor and outdoor temperatures, the greater the U-value, so it is important to use the U-values closely representing your conditions. The lower the U-value the better the insulation qualities of the glazing system.