

The following definitions will help you understand Express window film terminology as you view the various performance specifications.

Ply

Ply indicates the number of separate layers of polyester film that are contained within a product's construction. 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 EWF nomenclature to display the overall thickness of the window film product. 1 MIL = 25 micron.

Visible Light Transmission - VLT

VLT 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.

Total Solar Energy Rejected - TSER

TSER is the percentage of incident solar energy rejected by a glazing system which is equal to solar reflectance plus the part of solar absorption which is re-radiated outward.

Luminous Efficacy - LE

LE is the ratio of daylight transmission to solar heat transmission that passes through a glazing system, which is determined by dividing the visible light transmission by the shading coefficient. LE is a measurement of a film's efficiency, the higher the better.

Shading Coefficient - SC

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

Solar Heat Gain Coefficient - SHGC

SHGC is the sum of incident solar energy that is transmitted inside through the glazing system. It includes solar energy directly transmitted and the part of absorbed solar energy that is released inwards. SHGC is the fraction of incident solar radiations that actually enters the building through window glass. SHGC is expressed as a number between 0 and 1. The lower a window's solar heat gain coefficient, the less solar heat it transmits.

Total Solar Transmittance - T

T 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.

Total Solar Reflectance - R

R 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.

Total Solar Absorbance - A

A 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.

Visible Light Reflectance - VLR

VLR is the total percentage of visible light reflected by a glazing system that can be seen visually. Performance results include interior and exterior VLR specifications.

UV Rejected - UVR

Ultraviolet rejected is the ratio of ultraviolet solar energy (wavelength of 300 – 380nm) that is rejected 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.

Glare Reduction - GR

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

Winter Medium U-Value - U

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 will be.

Emissivity - E

Emissivity is a measure of a 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.

Spectrally Selective - SS

SS defines the ability to control performance in the selected range of solar spectrum. Solar energy properties of window films are calculated using ultraviolet, (300 to 380 nm) Visible, (380 to 780 nm) and Infrared (780 to 2500 nm) region of the electromagnetic spectrum. Spectrally selective window films have ability to selectively control the Ultraviolet, Visible and NIR region of the solar radiations incident on the windows. Films with an LE greater than 1.0 are considered to be spectrally selective.