



## Glass Terminology

### U Value

The measurement of heat loss or gain through glazing, and the difference between internal and external temperatures, measured at the centre of the glass. The formula for measuring this is expressed as W/m<sup>2</sup>K (Watts per m<sup>2</sup> per 1 degree Kelvin, Kelvin = 1 degree celsius).

By having a lower U value, means less air to heat transfer and better insulation. For reference, the U value is the inverse of the R value, i.e.  $U=1/R$  and R value is the inverse of U value, i.e.  $R=1/U$ .

### Visible Light Transmission (VLT)

As the title implies, this is the amount of visible light transmitting through the glazing. The VLT is measured in the 380-780 nanometers wavelength range perpendicular to the surface. i.e. the higher the VLT, the more light entering through the glass.

### Solar Heat Gain Coefficient (SHGC)

The portion of solar energy that enters a building through the glazing. The lower the SHGC number, the better the glazing is at reducing the transmission of heat energy.

### Shading Coefficient (SC)

The difference in total solar heat gain through a particular glass compared to 3mm clear float glass (3mm allows 86%). The lower the shading coefficient, the lower the heat gain and in turn, results in more shading provided by the glass. Shading coefficient is calculated as  $SC=SHGC / 0.86$ .

### Visible Light Reflection (VLR)

This is the percentage of visible light that has been reflected back from the glass surface, i.e. the higher the percentage, the more reflective the glass will be.

### Damage Weighted Transmittance (Tdw-ISO)

The measure of the ability of glazing to reduce fading or damage to interior fabrics and materials. The ISO Damage Weighted Transmittance (Tdw-ISO) calculation assigns a specific damage weighted factor to each wavelength of UV or visible light (from 300nm to 680nm), based on its contribution to fading. Tdw-ISO is expressed as a number between 0 and 1. The lower the value, the lower the risk of fading to interior fabrics and materials.

### NFRC 100-2010

The National Fenestration Rating council sets out the procedures and environmental conditions by which glass performance characteristics are measured. These conditions include solar radiation levels, internal and external temperatures, wind speed and heat transfer coefficients.