Low E Soft Coat

**Application:** Low-E Soft Coat, or Low-E(sc), is a low temperature sputter coating application (typically applied to surface 2 in dual glazing). This means it is basically sprayed on in layers comprising of generally three primary layers with additional layers of metal. Each layer is deposited on the glass in a vacuum chamber. The application is so thin, it is equivalent to 1/10,000 of the thickness of a human hair.

**Emissivity:** Emissivity is the ability of a material to radiate energy or transfer heat. Soft coat windows usually use a product with an emissivity of .04, meaning 96% of the long wavelength of radiant energy received by the surface is reflected. This would in turn lower the U-factor, which is the measurement of how much heat escapes through your window, also referred to as the "insulating measurement".

**Spectral Selectivity:** The spectral selectivity of the soft coat application is designed to not only block the re-radiation of heat from inside the home while still allowing a high transmittance of light into the home; it also cuts down on the heat from the sun that is allowed inside. Therefore, Low-E(sc) helps to lower the U-factor, in addition to reducing the Solar Heat Gain Coefficient or the amount of heat from the sun that travels through your window to help heat your home.

Low E Hard Coat

**Application:** Low-E Hard Coat, or Low-E(hc), is a pyrolytic coating of metallic oxide, most commonly tin oxide with some additives, which is deposited directly onto the glass surface (generally surface 3) while it is still hot; typically "baked into the glass". Although a pyrolytic coating is a thicker application than the soft coat, it is still extremely thin.

**Emissivity:** The hard coat product windows usually use has an emissivity of 0.154; meaning approximately 85% of the long wavelength of radiant energy received by the surface is reflected. This would in turn also lower the unit’s overall U-factor.

**Spectral Selectivity:** The spectral selectivity of the hard coat application is designed to allow basically all of the solar spectrum to pass through while blocking the re-radiation of heat from the inside of the house and still keeping a high transmittance of light into the home. Low-E(hc) helps reduce the U-factor, in comparison to that of clear glass for example, due to its emissivity being much lower. While lowering the U-factor, Low-E(hc) will also allow more solar heat gain to pass through.