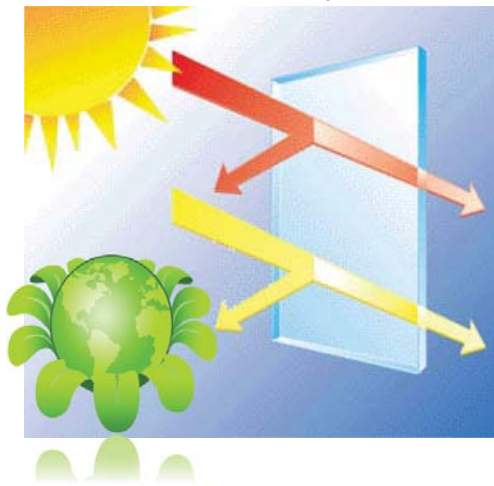
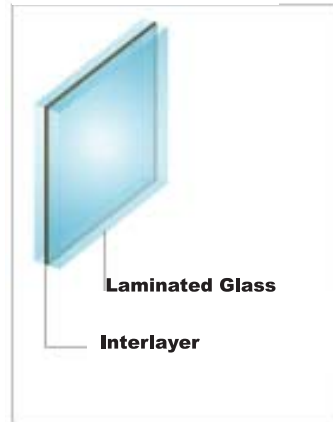


Over the years glass technology has changed significantly. Heat strengthened glass reduces breakage potential from thermal and bending stresses. Fully tempered or safety glass reduces the risk of injury and protects against property damage from falling glass shards. Laminated glass results in a high performance glazing composite material, which if broken, tends to retain glass fragments and is typically used in applications requiring safety, security, burglary resistance, sound control, hurricane resistance and bomb blast protection.



Insulated glass results in better sound control and is more energy efficient. With the advent of metallic or Low-E coatings, even more significant thermal performance can be achieved. Essentially, all of these options add to the complexity of the glazing used in today's door and window products.

Laminated Glass



Laminated glass, fabricated with heat treated glass substrates used in high performance impact resistant assemblies, may result in some reflective distortion and edge distortion that is inherent in the heat treating and laminating process. Distortion in high

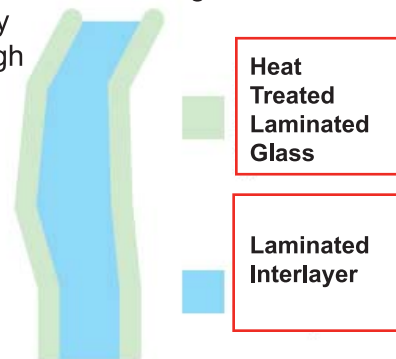
performance glass when used monolithically or incorporated in insulating glass units is detectable but seldom aesthetically objectionable. Distortion due to the lens effect may significantly increase in laminated systems because of the random alignment of peaks and valleys inherent in heat treated glass.

Heat-Treated Laminated Glass Showing Lens Effect

This lens effect can create a magnification of objects when they are viewed through the glass as well as reflecting some images.

Distortion of images, whether viewed in transmission or reflectance, may be exacerbated when viewed at angles other than normal (90°) to the surface; often the more acute or obtuse the angle the greater the distortion.

This distortion is normal and expected with high performance impact resistant glass.



WinDoor, Inc strives to procure the most distortion free high performance glass in the industry. All glass used in WinDoor, Inc products meets or exceeds the applicable **ASTM standards** such as... **INTERNATIONAL Standards Worldwide** ASTM - C1036, C1048, and C1172.

Heat strengthened glass, attributable to the high temperatures in the process will result in a slight concave and convex variation on the surface of the glass. Some Glass manufacturers electronically measure this variation (roller wave) and are able to detect degrees of variation that would result in an objectionable distortion. The distortion is quantifiable, measured in Millidiopters, and therefore can be controlled. WinDoor, Inc. procures glass only from suppliers who have the means to control and limit this type of distortion. WinDoor Inc. internally inspects 100% of all glass at receiving and again 100% prior to shipment to ensure the finest product is delivered to the end customer.

Currently there is no standard that limits roller wave, and as such, customers must understand that high performance glass will have distortion. Single layer heat strengthened glazing will have the least potential for roller wave distortion. However, with each additional glass layer/laminate in a glazing system, there will be a higher potential for distortion as described above. WinDoor, Inc. holds the position that this potential for distortion exists and should be expected with high performance glazing systems.

In the end, "Glass is intended to be looked through and not looked at."

