



CHOOSING BETWEEN TEMPERED AND HEAT STRENGTHENED GLASS

Heat treated glass products, whether tempered or heat strengthened, are produced in a similar fashion using the same equipment. In both cases, the glass is heated to approximately 1200 degrees F. and cooled rapidly to create surface and edge compression in the glass. The rate of cooling is the only difference in the process used to create tempered and heat strengthened glass. Tempered glass is cooled rapidly, which creates a higher degree of compression. Heat strengthened glass is cooled at a slower rate and the result is a lower state of compression.

Tempered glass is approximately 4 to 5 times as strong as regular annealed glass of the same thickness. It also breaks into small pieces which allow it to be used in locations where safety glass is required by code or where human impact is a concern. Tempered glass will tend to evacuate the glazing system upon breakage. Because of the high level of stress in tempered glass, the glass is subject to rare "spontaneous breakage", where the glass will break for no apparent reason.

Tempered glass is properly ordered for locations requiring safety glazing material. It should not be used where fallout in the event of breakage presents a safety or security concern.

Heat strengthened glass is approximately twice as strong as regular annealed glass of the same thickness. It breaks, like regular annealed glass, into relatively large pieces that will tend to remain in the glazing system. For the highest assurance of glass retention in the case of breakage, laminated glass should be employed.

Heat strengthened glass is NOT a safety glazing material, and should not be used where safety glass is required by code or where human impact is a concern.

Heat strengthened glass will eliminate the risk of heat stress breakage in regular annealed glass. Heat strengthened glass is properly ordered for locations where even rare "spontaneous breakage" would present a hazard. The lower stresses in heat strengthened glass virtually eliminate this risk.

In summary, here are our recommendations:

TEMPERED	<ul style="list-style-type: none"> - For Locations where safety glass is required by law or code - Where human impact is a concern - Where maximum resistance to impact or load is required
HEAT STRENGTHENED	<ul style="list-style-type: none"> - For applications where heat stress breakage is a concern (i.e. insulating glass with both tinted glass and low-e coatings, spandrel glass) - For locations where glass fallout in the event of breakage is a concern - For locations where safety glass is not required