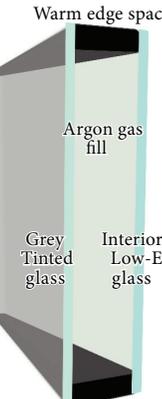
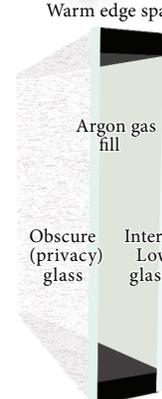
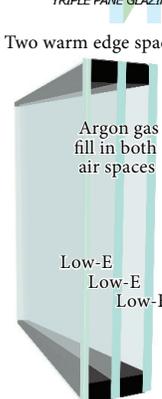




Glass in Quaker windows and doors is supplied by Cardinal Industries, the preeminent glass manufacturer in North America. [www.cardinalcorp.com](http://www.cardinalcorp.com)

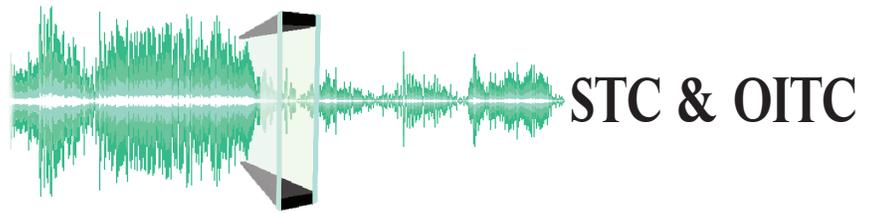
Cardinal Industries supplies Quaker with several types of Low-E glass, tinted glass, privacy glass and other specialty glass. From their offering, we have developed our own energy-efficient family of glazing packages. The most popular being:

<p><b>ENERGYBASIC</b></p>  <p>Our basic, single-coat Low-E package furnishes very good overall U-Value and Solar Heat Gain coverage.</p>	<p><b>ENERGY3S</b></p>  <p>Our best single-coat Low-E package delivers very good U-Values and significantly better Solar Heat Gains.</p>	<p><b>ENERGYPLUS</b></p>  <p>With two coats of Low-E, you get fantastic U-Values, plus very good Solar Heat Gain performance.</p>	<p><b>ENERGYMAX</b></p>  <p>When needing both low U-Values and Heat Gains, this is our top dual pane glass courtesy of two coats of superior Low-E.</p>	<p><b>ENERGYNORTH</b></p>  <p>Dual pane glass specially developed to take advantage of SHGC requirements in Energy Star's Northern Climate Zone.</p>
<p><b>ENERGYEnhanced</b></p>  <p>Our hardest working glass package. Energy-efficient dual Low-E with anti-glare properties score low U-Values and SHGCs. Plus Neat® low maintenance coating.</p>	<p><b>ENERGYBRONZE</b></p>  <p>Bronze exterior tint for aesthetic purposes teamed with Low-E on the interior. Very useful for reflecting Solar Heat, not gaining it.</p>	<p><b>ENERGYGREY</b></p>  <p>Grey exterior tint for aesthetic purposes teamed with Low-E on the interior. Very useful for reflecting Solar Heat, not gaining it.</p>	<p><b>ENERGYOBSCURE</b></p>  <p>A combination of energy-efficiency and discretion for private areas. Thermal values are similar to our Energy 3S package.</p>	<p><b>ENERGYTG</b> TRIPLE PANE GLAZING</p>  <p>Up to three panes of Low-E glass<sup>1</sup> offer better energy saving performance - plus an extra barrier for sound deflection.</p>

<sup>1</sup> Number of Low-E coats in EnergyTG Triple Pane Glazing can vary.

Our glass offerings are not limited to the glazing packages above. We offer several other specialty Low-E glass variations, as well as mirror, reflective, spandrel, tinted, special obscure patterns, and more. Contact your Quaker representative for availability.

Neat® is a registered trademark of Cardinal Industries.



Quaker's full-range of products can be tailored to meet or exceed demanding OITC (Outdoor/Indoor Transmission Class) or STC (Sound Transmission Class) requirements in high-decibel locations.

According to Architectural Testing Inc. (A.T.I.), an independent testing agency that specializes in fenestration-related products, there are typical ranges of STC & OITC ratings based on the glazing make-up. Those ranges, along with the glazing to achieve them, are as follows:

I.G. Glazing	I.G. Air Space	Secondary Window Glazing (Storm Window)	STC Rating Range	OITC Rating Range
1/8" annealed (DSB) + 1/8" annealed (DSB)	1/2"	None	27-28	23-24
1/8" annealed (DSB) + 1/4" annealed	1/2"	None	29-32	25-28
1/4" annealed + 1/4" annealed	1/2"	None	31-33	26-29
1/8" annealed (DSB) + 1/4" laminated	1/2"	None	32-34	27-28
1/4" annealed + 1/4" laminated	1/2"	None	34-36	27-29
1/4" laminated + 1/4" laminated	1/2"	None	37-38	28-30
1/8" annealed (DSB) + 1/8" annealed (DSB)	1/2"	1/8" annealed (DSB) + 2" space between storm and prime window	39-41	28-30
1/4" annealed + 1/8" annealed (DSB)	1/2"	1/4" annealed + 2" space between storm and prime window	42-44	32-35
1/4" laminated + 1/8" annealed (DSB)	1/2"	1/4" annealed + 2" space between storm and prime window	43-45	34-36
1/4" laminated + 1/8" annealed (DSB)	1/2"	1/4" laminated + 2" space between storm and prime window	44-46	35-37

A.T.I.'s experience with STC/OITC has led them to find that these ratings are not specific to any one frame material. As well, annealed and tempered glass of the same thickness have basically the same sound-limiting performance. However, to accurately determine the acoustical performance of any window system, a sound transmission test is required.

Quaker has several individual products already tested for STC/OITC. They are listed below. Tests on products not shown can be performed on a job-specific basis if necessitated.

Hung Windows	STC Range*	OITC Range*
E300 Double Hung	28-36	23-31
Manchester Single Hung	29-35	24-28

Venting Windows	STC Range*	OITC Range*
C600 Casement	28-35	23-31
E600 Casement	31-42	25-34
M600 Casement	29-43	23-34
V300 Awning/Fixed	35	29
W600 Casement	27-37	22-33

Sliding Windows	STC Range*	OITC Range*
E500 Horiz. Slider	33-37	28-31
K200 Horiz. Slider (Arctic)	47	39
K200 Horiz. Slider (Arctic w/int. Storm)	51	38
Manchester Horiz. Slider	29-31	24-28

Picture Windows	STC Range*	OITC Range*
C600 Fixed	30-36	25-31
M600 Fixed	32-35	26-29
V300 Awning/Fixed	35	29
W600 Fixed	30-36	25-31

Doors	STC Range*	OITC Range*
M600 Terrace Door	34-38	30-33

\*Ranges shown are the result of multiple tests performed using various types of glass thickness. Where singular numbers are shown, testing was completed using one specific type of glass make-up.

### What's the difference between STC & OITC

**STC:** Rating calculated in accordance with ASTM E 413 using sound transmission loss values. It provides an estimate of the sound insulation performance of an interior partition in common sound insulation situations. The frequency range used is typical of indoor office noises.

**OITC:** Rating calculated in accordance with ASTM E 1332, using values of outdoor-indoor transmission loss. It provides an estimate of the sound insulation performance of a facade or building elements. The frequency range used is typical of outdoor traffic noises.

For projects requiring glazed-in louvers to pair with windows, Quaker offers the convenience of purchasing both from the same supplier.

Quaker's louver systems will match our line of window products, from sightlines to color, and can arrive as one complete unit.

Meets requirements for both Impact and Florida Building Approval. For information on Quaker's Impact Louver System, go to the "Impact" Section (Green tab).

Standard Performance Data: ASTM E330 & TAS 202	
Rating	± 75 DP
Free Air %	68%
NFPA 90 Rating	Class C (Class A available)
Structural Performance	112.0 psf
Thermally Broken	No
Frame Depth	1" Glazing Pocket
"R" Value	1.2 of Insulated Panel
Screen Option	Bird/Insect

### Louver glazed into frame

