

# A-1 ALUMINUM INC.

## *Replacement Window Glass*

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### **Layers of Glass and Air Spaces**

**Single-pane** has very little insulating value with (approximately r-1). It provides only a thin barrier to the outside and can account for considerable heat loss and gain.

**Double-pane** improves a window's energy efficiency the number of glass panes in the unit is doubled, because multiple layers of glass increase the window's ability to resist heat flow.

### **Types of Glass**

There are various types of glass manufacturers use in constructing windows.

**Clear glass** has been the primary material available for window panes in homes. However, in recent years, the market for glazing--or cutting and fitting window panes into frames--has changed significantly. Now several types of special glazing's are available that can help control heat loss and condensation.

**Low emissivity (low-e) glass** has a special surface coating to reduce heat transfer back through the window. These coatings reflect from 40% to 70% of the heat that is normally transmitted through clear glass, while allowing the full amount of light to pass through.

**Heat-absorbing glass** contains special tints that allow it to absorb as much as 45% of the incoming solar energy, reducing heat gain. Some of the absorbed heat, however, passes through the window by conduction and re-radiation.

**Reflective glass** has been coated with a reflective film and is useful in controlling solar heat gain during the summer. It also reduces the passage of light all year long, and, like heat-absorbing glass, it reduces solar transmittance.

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**Courtesy of A-1 Aluminum Inc.**

4405 Kiln Court \* Louisville, KY 40218 \* (502) 452-2239 \* (502) 452-9937 fax  
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