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## FIREPLACE GLAZING

The live flame in a fireplace is normally about 800 F. To reduce breakage, glass should be installed using the proper gasket and clips. The front of the fireplace grate should be at least six inches behind the glass.

### FULLY TEMPERED GLASS

Fully tempered glass is about 4 times stronger than annealed glass and may be used in conventional fireplace glass doors. Because it has a thermal shock rating of 400 F, it is not guaranteed against breakage.

When tempered glass breaks it fragments into small pieces. It is possible to pull part of the tempered out of the tempered glass (it loses thermal resistance) by gradually heating it above 500 F and then slowly cooling it back down to room temperature. This is the typical heating cycle of glass fireplace doors. Each time this is done, more and more of the temper is removed, reducing the mechanical strength of the glass and increasing its fragment size when broken. The fragment sizes will depend on the remaining temper but are always curved like pieces of a jigsaw puzzle.

### BOROSILICATE GLASS (Pyrex)

Borosilicate glass (Pyrex) has a very low thermal expansion coefficient, about one-third that of ordinary glass. This means that unlike tempered glass, Pyrex does not lose thermal resistance during the heating and cooling cycle of the fireplace.

With a thermal shock rating of 925 F, Pyrex can still crack or shatter when subjected to rapid or uneven fireplace temperature variations. When broken, borosilicate glass tends to crack into large pieces rather than shattering (it will snap rather than splinter).

It is available in 1/8" and 1/4" thickness and can be cut to any size.

### PYROCERAM GLASS

Pyroceram, or ceramic glass, has a thermal shock rating of 1,280 F. The heat generated in a conventional fireplace will not cause Pyroceram to break since the heating and cooling cycle of the fireplace is not hot enough to reach the thermal shock rating of ceramic glass. If breakage does occur, it is the result of a sudden impact against the glass or from mounting clips putting a bind on the glass.

Pyroceram is available in 3/16" thickness, has a slight amber tint, and can be cut to any size.