



# PRODUCT DATA SHEET

## G-1017 GLASS TRANSFER TAPE

### General Information

G-1017 Glass Transfer Tape is specifically designed for sealing and joining pyrex parts. The product may also be used for glazing, sealing and joining other materials (such as low expansion ceramics) having a  $40-50 \times 10^{-7}$  coefficient of expansion. G-1017 is a mixture of lead-zinc-borosilicate type glass components. The material is designed to be applied in a thin layer, and consequently, pyrex parts can be fused without cracks or stresses due to thermal expansion mismatch. This process replaces the direct fusing of pyrex parts, which in complicated assembly cases often causes difficulties. G-1017 Glass Transfer Tape will fire to a green color.

### Physical Properties

Glass Family .....	Lead-zinc-borosilicate
Glass Type .....	Devitrifying
Annealing Point .....	$305 \pm 10^{\circ}\text{C}$
Softening Point .....	$400 \pm 10^{\circ}\text{C}$
Coefficient of Thermal Expansion .....	$40-50 \times 10^{-7}$ in/in/ $^{\circ}\text{C}$
Dielectric Constant, 1 Megacycle, $25^{\circ}\text{C}$ .....	14.5

### Application Data

After separating the release paper, the parts are placed on the adhesive layer of the glass tape. Subsequently, they are pressed, using a pressure in the range of 1 - 20 psi for a period of approximately one minute. It is recommended that an arbor press be used with rubber pressing plates having a durometer between 45 and 95. These factors will vary, depending on the individual application. After separating the parts from the tape, the glass layer on the parts will have a sharp definition of the outline of the part.

## Sealing Procedures

1. Start at room temperature with 5 - 20 psi of pressure on the parts to be sealed to insure proper flow of the molten glass.
2. Heat to 490 - 540°C in 30 - 40 minutes using air or an inert gas atmosphere.
3. Hold at 490 - 540°C for 15 - 25 minutes.
4. Cool slowly; minimum cooling time is 30 - 40 minutes. Slower cooling (such as overnight) is also suitable.

The above firing cycle is a general recommendation. The amount of weight needed and mass of the parts to be sealed may require longer or shorter heat-ups and holds. A higher final temperature may require a shorter hold. Experiment to determine the ideal hold for your particular sealing requirement.

## Ordering Information

G-1017 Glass Transfer Tape is made to order. A .002" thickness with adhesive coating or a .004" thick non-adhesive tape are generally recommended for sealing pyrex. Maximum width is 24". For larger production runs, preforms from G-1017 tape can be made to order. The tape is available slit to any width (.125" minimum). Please phone or fax for additional information and pricing.



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