



PRODUCT DATA SHEET

GPR-10 GLASS TRANSFER TAPE

General Information

GPR-10 Glass Transfer Tape is specifically designed for glazing and sealing silicon wafers and chips. The product may also be used for glazing, sealing and joining other materials (such as ceramics) having a coefficient of expansion of approximately 65×10^{-7} . GPR-10 is a lead-zinc-borosilicate type glass thermally matched to silicon so that the fired coatings do not have stresses or cracks. The most commonly used thickness is .001"-.006". The resulting glaze or seal is uniform, adheres well and the pieces may be easily handled.

Physical Properties

Glass Family:	Lead-Zinc-Borosilicate
Glass Type:	Vitreous
Annealing Point::	~425°C
Softening Point:	~510°C
Working Temperature:	552-600°C
Coefficient of Thermal Expansion:	64×10^{-7} in/in°C
Dielectric Constant, 1 megacycle, 25 C:	12

Application Data

After removing 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 on the part.

Sealing Procedures

1. Heat from room temperature to 552-600°C in 40-50 minutes using air or inert gas atmosphere.
2. Hold for 10-15 minutes at 552-600°C.
3. Cool slowly-minimum cooling time is 40-50 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. Experiment to determine the ideal cycle for your particular sealing requirements. A ramp (short hold period) at 350°C for 10-15 minutes may be used to burn-off the binders solids to continuing the 552-600°C heat up. Depending upon part mass and geometry, this step may not be necessary. A pre-glaze or sintered state may be obtained with GPR-10 by holding at 525°C for approximately 15 minutes. This allows for secondary bonding and sealing operations prior to final firing.

Ordering Information

GPR-10 Glass Transfer Tape is made to order. A .001" thickness with adhesive coating is generally recommended for sealing silicon wafers and chips. 500 in.² is the minimum order quantity. Maximum width at .001" thickness is 10". Slitting to width (0.125" minimum) is available and may incur additional charges depending upon quantity. Please phone or FAX for a quote.

The logo for Vitta, featuring the word "Vitta" in a stylized, cursive font.

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