Bond-Ply® 100

Thermally Conductive, Fiberglass Reinforced Pressure Sensitive Adhesive Tape

Features and Benefits

- Thermal impedance: 0.52°C-in²/W (@50 psi)
- High bond strength to a variety of surfaces
- Double-sided, pressure sensitive adhesive tape
- High performance, thermally conductive acrylic adhesive
- Can be used instead of heat-cure adhesive, screw mounting or clip mounting

Typical Applications Include:

- Mount heat sink onto BGA graphic processor or drive processor
- Mount heat spreader onto power converter PCB or onto motor control PCB

Configurations Available:

- Sheet form, roll form and die-cut parts

Shelf Life: The double-sided, pressure sensitive adhesive used in Bond-Ply products requires the use of dual liners to protect the surfaces from contaminants. Bergquist recommends a 6-month shelf life at a maximum continuous storage temperature of 35°C or 3-month shelf life at a maximum continuous storage temperature of 45°C, for maintenance of controlled adhesion to the liner. The shelf life of the Bond-Ply material, without consideration of liner adhesion (which is often not critical for manual assembly processing), is recommended at 12 months from date of manufacture at a maximum continuous storage temperature of 60°C.

TYPICAL PROPERTIES OF BOND-PLY 100

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	White	White	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	—
Thickness (inch) / (mm)	0.005, 0.008, 0.011	0.127, 0.203, 0.279	ASTM D374
Temp. Resistance, 30 sec. (°F) / (°C)	392	200	—
Elongation (%45° to Warp & Fill)	70	70	ASTM D412
Tensile Strength (psi) / (MPa)	900	6	ASTM D412
CTE (ppm)	325	325	ASTM D3386
Glass Transition (°F) / (°C)	-22	-30	ASTM 1356
Continuous Use Temp (°F) / (°C)	-22 to 248	-30 to 120	—
ADHESION			
Lap Shear @ RT (psi) / (MPa)	100	0.7	ASTM D1002
Lap Shear after 5 hr @ 100°C	200	1.4	ASTM D1002
Lap Shear after 2 min @ 200°C	200	1.4	ASTM D1002
Static Dead Weight Shear (°F) / (°C)	302	150	PSTC#7
ELECTRICAL		VALUE	TEST METHOD
Dielectric Breakdown Voltage - 0.005" (Vac)		3000	ASTM D149
Dielectric Breakdown Voltage - 0.008" (Vac)		6000	ASTM D149
Dielectric Breakdown Voltage - 0.011" (Vac)		8500	ASTM D149
Flame Rating		V-O	U.L.94
THERMAL			
Thermal Conductivity (W/m-K)		0.8	ASTM D5470

THERMAL PERFORMANCE vs PRESSURE					
Initial Assembly Pressure (psi for 5 seconds)	10	25	50	100	200
TO-220 Thermal Performance (°C/W) 0.005"	5.17	4.87	4.49	4.18	4.10
TO-220 Thermal Performance (°C/W) 0.008"	5.40	5.35	5.28	5.22	5.20
TO-220 Thermal Performance (°C/W) 0.011"	6.39	6.51	6.51	6.50	6.40
Thermal Impedance (°C-in²/W) 0.005" (1)	0.56	0.84	0.52	0.50	0.50
Thermal Impedance (°C-in²/W) 0.008" (1)	0.82	0.80	0.78	0.77	0.75
Thermal Impedance (°C-in²/W) 0.011" (1)	1.03	1.02	1.01	1.00	0.99

1) The ASTM D5470 test fixture was used. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

Building a Part Number

BP100 – 0.008 – 00 – 1112 – NA

- Section A: BP100 = Bond-Ply 100 Material
- Section B: Standard thicknesses available: 0.005", 0.008", 0.011"
- Section C: 00 = No adhesive
- Section D: 1112 = 11" x 12" sheets,11250 = 11" x 250' rolls or 00 = custom configuration
- Section E: NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

Standard Options

example

Note: To build a part number, visit our website at www.bergquistcompany.com.

Bond-Ply®: U.S. Patent 5,090,484 and others.

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