

Thermally Conductive, Film Reinforced, Pressure Sensitive Adhesive Tape

Features and Benefits

- Thermal impedance:
0.87°C-in²/W (@50 psi)
- Highly puncture resistant Polyimide reinforcement carrier
- Double-sided pressure sensitive adhesive tape
- Provides a mechanical bond, eliminating the need for mechanical fasteners or screws

Bond-Ply 660P is a thermally conductive, electrically insulating, double sided pressure sensitive adhesive tape. The tape consists of a high performance, thermally conductive acrylic adhesive coated on both sides of a Polyimide film. Use Bond-Ply 660P in applications to replace mechanical fasteners or screws.

Typical Applications Include:

- Heat sink onto BGA graphic processor
- Heat sink onto drive processor
- Heat spreader onto power converter PCB
- Heat spreader onto motor control PCB

Configurations Available:

- Roll form and die-cut parts

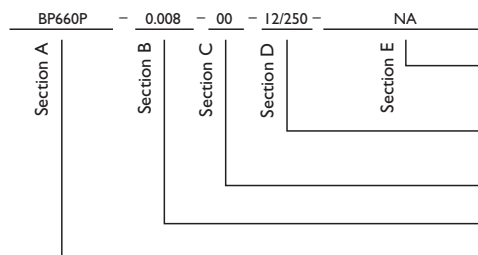
The material as delivered will include a continuous base liner with differential release properties to allow for simplicity in roll packaging and application assembly.

TYPICAL PROPERTIES OF BOND-PLY 660P					
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD		
Color	Light Brown	Light Brown	Visual		
Reinforcement Carrier	Polyimide Film	Polyimide Film	—		
Thickness (inch) / (mm)	0.008	0.203	ASTM D374		
Glass Transition (°F) / (°C)	-22	-30	ASTM E1356		
Continuous Use Temp (°F) / (°C)	-40 to 257	-40 to 125	—		
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		
ELECTRICAL		VALUE	TEST METHOD		
Dielectric Breakdown Voltage (Vac)		6000	ASTM D149		
Flame Rating		V-O	U.L.94		
THERMAL					
Post-Cured Thermal Conductivity (W/m-K)		0.4	ASTM D5470		
THERMAL PERFORMANCE vs PRESSURE					
Initial Assembly Pressure (psi for 5 seconds)	10	25	50	100	200
TO-220 Thermal Performance (°C/W)	5.48	5.47	5.15	5.05	5.00
Thermal Impedance (°C-in ² /W) (1)	0.83	0.82	0.81	0.80	0.79

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.

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.

Building a Part Number



Standard Options

- ◀ example
- NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.
- 12/25 = 12" x 12" Sheets, 12/250 = 12" x 250' rolls or 00 = custom configuration
- 00 = No adhesive
- Standard thicknesses available: 0.008"
- BP660P = Bond-Ply 660P Material

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

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