

Thermo continues to develop and evaluate new technologies and their applications in the heater industry. Many high temperature thick films (conductive inks) are available today, which can be applied to a wide variety of substrates in order to meet low, moderate and high-temperature requirements.

Conductive Kapton is composed of an electrically conductive film, loaded with conductive carbon which has a tightly controlled surface resistivity. Like other polyimide films, Conductive Kapton has excellent thermal, electrical and mechanical properties as well as excellent chemical resistance.

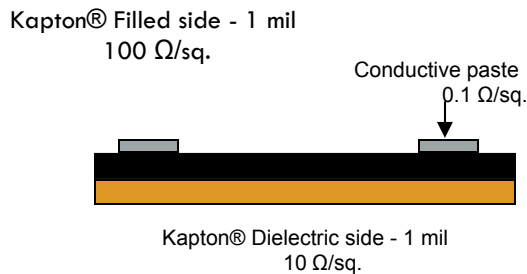
**Other advantages include:**

- Surface resistivity of 100 Ohms per square inch
- Extremely thin, durable construction
- 170°C continuous operating temperature
- Able to manufacture into multiple sizes and shapes
- Ideally suited for flexing applications, including automotive seat heaters.



**Conductive Kapton Construction**

Film electrically conductive on one side  
Screen print conductive paste  
Possible second layer of dielectric  
Attach leads



**Ideal Applications for Conductive Kapton:**

- Consumer
  - Apparel Heaters
- Automotive
  - Mirror Heaters
  - Engine Warmers
  - Seat Heaters
- Aerospace
  - Wing Heaters
  - Floor Heaters
  - Satellite Heaters
- Industrial
  - Inline Pipe Heaters
  - Tooling Warm Up

**Typical Properties of Conductive Kapton**

Properties	Measurement	Test Method
Tensile Strength, md/td	19/17 Kpsi	ASTM D-882
Tensile Modulus, md/td	450/420 Kpsi	ASTM D-882
Elongation to Break, md/td	40/45%	ASTM D-882
Density	1.46g/cc	ASTM D-1505
Light Transmission	Opaque	
Surface Resistivity	100 Ohms/sq	Four-Point Probe

\* Kapton® is a registered trademark of DuPont