

Quick Ship

• Same day shipment on stock units with orders received by 11:00 a.m. CST.

Flexible Heaters

Kapton® Material

A thin, lightweight organic polymer film, Kapton® provides excellent tensile strength, tear resistance and dimensional stability. This heater is ideal for applications requiring low outgassing in a vacuum, or resistance to radiation, fungus and chemicals. Kapton® is also very resistant to solvents.

Performance Capabilities

- For operating environments as low as -319°F (-195°C), heater temperature as high as 392°F (200°C)
- Watt densities to 50 W/in² (7.75 W/cm²)^①

Features and Benefits

- **Excellent physical and electrical properties** result in thermal stability over a wide temperature range.
- **Transparent Kapton® material** allows inspection of internal details.
- **Resists radiation and fungus**, allowing its use in a wide range of applications.
- **UR® and cUR®** available on many custom designs.

Applications

- Military/aerospace, where low outgassing properties are required
- Medical, where thorough cleaning or sterilization is needed
- Laboratory research
- Photographic equipment
- Optical equipment
- LCD displays
- Computer equipment

Standard Specifications

Thickness: 0.007 inch (0.2 mm)

Flexibility (min. radius): 1/32 inch (0.8 mm)

Weight: 1.5 oz./ft² (0.05 g/cm²)

Operating temperature: ②

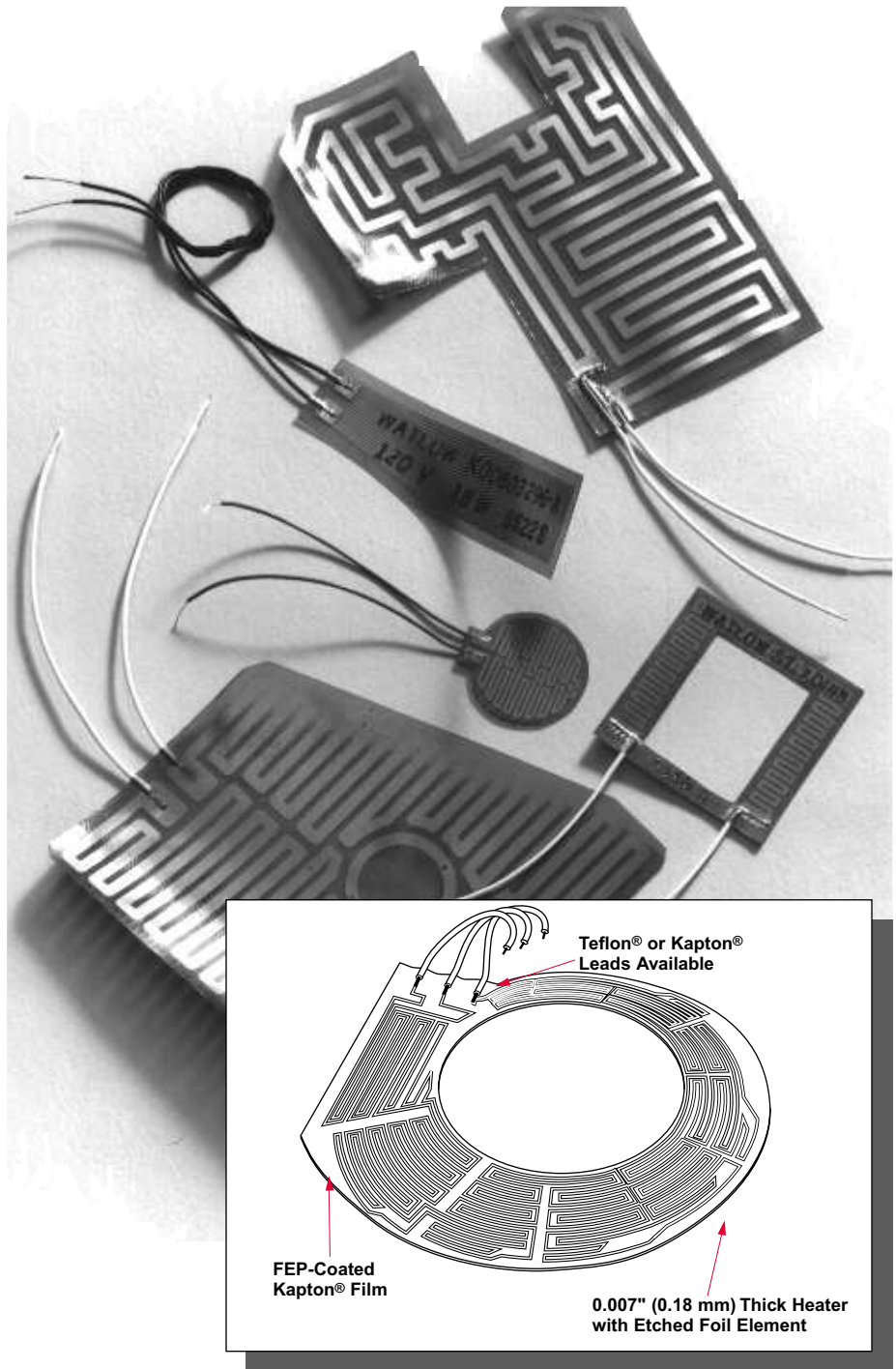
Maximum: 392°F (200°C)
Minimum: -319°F (-195°C)

Kapton® and Teflon® are registered trademarks of E.I. du Pont de Nemours & Company.

UR® and cUR® are registered trademarks of Underwriter's Laboratories, Inc.

① Watt density limits are application dependent (operating temperatures, bonding method and heat sink).

② We recommend maximum part temperature at 300°F (150°C). For more information, ask for technical letter #4, Kapton® heaters.



Flexible Heaters

Maximum operating watt density:

At 77°F (25°C) in open air:
7 W/in² (1 W/cm²)
At 300°F (150°C): 10 W/in²

Watt density rating on stock units: 5 W/in² (0.8 W/cm²)

Dielectric strength:
Minimum V~(ac): 1000

Flammability rating:

Self-extinguishing

Heater size limitations: 20 x 26 inches (510 mm x 660 mm)

Weight loss (outgassing):
0.51 percent

Standard lead length: 12 inches (305 mm) Teflon® E

Flexible Heaters

F.O.B.: Columbia, Missouri

Kapton Material

Options

Stock

- Pressure Sensitive Adhesive Surface (PSAS) (see [page 165](#) for more information)

Made-to-Order

- PSAS
- Factory bonding
- Holes, cutouts, notches
- Special leads

Width in. (mm)	Length in. (mm)	Volts	Watts	Availability	Code Number 28V	Code Number 120V~(ac)
0.5 (13)	2 (50)	28	5	Stock	K005020C5	
1 (25)	1 (25)	28	5	Stock	K010010C5	
1 (25)	3 (75)	28	15	Stock	K010030C5	
1 (25)	5 (125)	120	25	Stock		K010050C3
1 (25)	15 (380)	120	75	Stock		K010150C3
2 (50)	10 (255)	120	100	Stock		K020100C3
3 (75)	5 (125)	120	75	Stock		K030050C3
4 (100)	4 (100)	120	80	Stock		K040040C3
5 (125)	5 (125)	120	125	Stock		K050050C3

Approx. net weight: 1.5 ounces/ft² (0.05 g/cm²)

How to Order

Determine width, length, volts and watts. Specify the code number and quantity if the heater is listed in the stock list above. To specify PSAS add **A** to code number. For **made-to-order** heaters, please provide the following:

- Quantity
- Size (dimensions)
- Voltage
- Wattage/watt density
- Operating temperature
- Options, such as holes, PSAS.

- Will heater be subject to flexing?

Availability

Stock: Same day shipment of orders received by 11:00 a.m. CST.

Made-to-Order: Consult factory

Special Product Offering

Kapton® Handy Heater Kit—For Quick Heating Solutions

Watlow offers a convenient way to use Kapton® heaters. The Handy Heater Kit consists of 16 Kapton® heaters—13 rectangular and three circular—in different sizes and resistances. So when you need a small flexible heater in a hurry, you can pick the one that fits your application.

Circuit	Resistance (ohms)	Size (inches)
A	40	½ x 2 ½
B	90	1 x 2 ½
C	145	1 ½ x 2 ½
D	205	2 x 2 ½
E	80	½ x 3 ½
F	165	1 x 3 ½
G	275	1 ½ x 3 ½
H	375	2 x 3 ½
I	130	½ x 5 ¾
J	255	1 x 5 ¾
K	28	1 x 1 ½
L	13	½ x 1 ½
M	32	1 O.D.
N	180	2 O.D.
O	185	4 O.D.
P	45	1 x 1 ¾

Other Features

- The heater sheet can be ordered with or without pressure sensitive adhesive (PSAS), depending on your needs. To specify PSAS add **A** to code number.
- The kit comes with instructions for wiring, lead attachment and selection and installation. Pre-tinned solder pads are provided for easy lead connections.
- The instructions also show you how to dial in your desired wattage using a variable voltage transformer.
- The heaters can be wired individually, in series, or parallel for hundreds of variations to satisfy your special application.

F.O.B.: Columbia, Missouri

Kapton® Kit		
Description	Availability	Code Number
Heater Kit Only	Stock	K05711980
Kit with PSAS	Stock	K05711980A
Kit with 3 Lead Pairs	Stock	K05711980L
Kit with PSAS and Leads	Stock	K05711980AL

Individual heaters are **K05711980-circuit letter**.

Availability

Stock: Same day shipment of orders received by 11:00 a.m. CST.