MINCO

ALL-POLYIMIDE (AP) FLEXIBLE HEATER

DESIGNED FOR SPACE ENVIRONMENTS

Reliable Thermal Performance. Built for Space.

MINCO's All-Polyimide (AP) Flexible Heaters deliver outstanding performance and durability with all-polyimide construction—no internal adhesives. Ideal for the most demanding space applications.

BUILT FOR SPACE

- ✓ Low Outgassing
- ✓ Radiation Resistant
- ✓ Lightweight & Flexible

KEY PERFORMANCE SPECIFICATIONS

WATT DENSITY	RESISTANCE DENSITY	TEMPERATURE RANGE	MIN. LINE WIDTH	MIN. LINE SPACING
Up to 120 W/in² (18.60 W/cm²)	1500 ohms/in² (233 ohms/cm²)	-200 to 260°C (-328 to 500°F) UL Recognized: -200 to 240°C	5 mils	5 mils

NASA S-311-P-841 Approved

LOW OUTGASSING
0.36% total mass loss, 0.01% CVCM per NASA-JSC.

EXCELLENT THERMAL UNIFORMITY
Consistent heat distribution for reliable performance.

FLEXIBLE & LIGHTWEIGHT
Conforms to curved surfaces and complex geometries.

RADIATION RESISTANT
All-polyimide materials withstand radiation in space environments.

CHEMICAL RESISTANT
Resistant to most chemicals and solvents.

CUSTOM ENGINEERED
Round, rectangular & irregular shapes. Optional sensors.

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TYPICAL SPECIFICATIONS:

Temperature Range	-200 to 260°C (-328 to 500°F) UL Recognized: -200 to 240°C (-328 to 464°F)
Watt Density	Up to 120 W/in² (18.60 W/cm²)
Maximum Operating Temperature	260°C (500°F)
Dielectric Strength	1000 VRMS at 60 Hz for 1 minute
Insulation Resistance	1000 megohms min. at 500 VDC
Outgassing (NASA–JSC)	0.36% total mass loss, 0.01% CVCM
Agency Approvals	UL recognition optional
Maximum Size	22" x 45" (560 x 1145 mm) Consult Minco for larger size options.
Maximum Resistance Density	1500 Ω/in² (233 Ω/cm²)
Leadwires	Stranded, PTFE insulated, AWG 30 to AWG 20
Heater Thickness	Over element: 0.012" (0.3 mm) max. Over leadwire terminations: 0.150" (3.8 mm) ref.

PROVEN SOLUTIONS FOR SPACE APPLICATIONS

- SPACECRAFT & SATELLITE SYSTEMS
- VACUUM CHAMBERS & INSTRUMENTATION
- SEMICONDUCTOR PROCESS EQUIPMENT
- SCIENTIFIC & RESEARCH EQUIPMENT
- OPTICAL & PRECISION DEVICES
- TURNKEY ASSEMBLY SOLUTIONS
  Reduce assembly time and total cost.

- Higher temperature capability to 260°C
- Higher watt density for compact designs
- Efficient thermal cycling
- Custom profiling for uniform heat output
- Factory lamination saves space & time

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