



ALL-POLYIMIDE (AP) FLEXIBLE HEATER



**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

Up to 120 W/in²
(18.60 W/cm²)



RESISTANCE DENSITY

1500 ohms/in²
(233 ohms/cm²)



TEMPERATURE RANGE

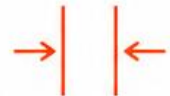
-200 to 260°C
(-328 to 500°F)

UL Recognized: -200 to 240°C



MIN. LINE WIDTH

5 mils



MIN. LINE SPACING

5 mils

NASA S-311-P-841 Approved



LOW OUTGASSING

0.36% total mass loss,
0.01% CVM
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/in ² (18.60 W/cm ²)
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/in ² (233 Ω/cm ²)
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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