PRECISION HEAT TAPE

YOUR SOURCE FOR THERMAL SOLUTIONS

Clayborn Lab Precision Heat Tape delivers reliable, efficient thermal energy directly to your application through combined conductive and radiant modes of heat transfer. The reflective outer layer redirects radiant energy back onto the heated object, maximising every watt of electrical input.

AC & DC Operation	1V – 277V Input	Up to 400°F	Lengths to 450 ft	Silicone or Acrylic	< 1/64" Thick

TECHNICAL SPECIFICATIONS

TAPE SPECIFICATIONS

SILICONE ADHESIVE (-16 SERIES)	
Op. Temperature	**-100 to +250 °C**
Outgassing	**1.047% / .322%**
Adhesion (Al, +125°C)	**28 oz/in**
Adhesion (Al, -100°C)	**450 oz/in**
Overall Thickness	**.025"**
Dielectric Strength	**600 Vdc**

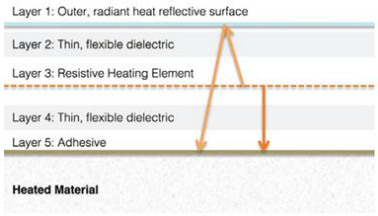
ACRYLIC ADHESIVE (-28 SERIES)	
Op. Temperature	**-100 to +180 °C**
Outgassing	**.264% / .000%**
Adhesion (Al, +125°C)	**29 oz/in**
Adhesion (Al, -100°C)	**50 oz/in**
Overall Thickness	**.028"**
Dielectric Strength	**600 Vdc**

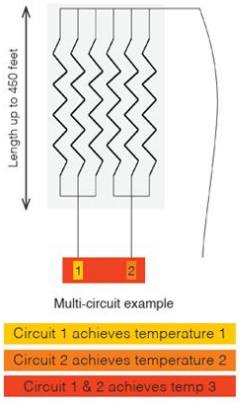
APPLICATIONS & FEATURES

MARKETS & KEY FEATURES

- Aerospace & Satellites
- Heat Tracing (pipes, tubes, sample lines)
- Heated Sample Lines & Analytical Instruments
- Industrial Process Control

- **Widths:** 1/6", 1/4" or 1/2"
- **Substrate:** Aluminium or Fiberglass cloth
- **Conductors:** 1 (1/6"), 2 (1/4"), 4 (1/2")
- **Max continuous length:** Up to 450 ft





ADVANCED CONTROL

CONFIGURABLE CIRCUITRY OPTIONS

CURRENT & WATTAGE CONTROL

Manage input current and maintain constant wattage even as temperature rises — ideal for applications requiring stable thermal output.

MULTI-TEMPERATURE DESIGN

One tape, multiple setpoints: Circuit 1 → Temp 1, Circuit 2 → Temp 2, Circuits 1 & 2 combined → Temp 3.

PROTECTION & EFFICIENCY

Over-temperature protection, reduced wattage holding circuits, and 3-phase operation for demanding industrial installations.

SELECTION GUIDE

HOW TO SELECT THE RIGHT HEAT TAPE

A

DETERMINE TOTAL WATTAGE

Calculate wattage needed to reach and maintain the desired surface temperature, accounting for heat losses from fluids in the tube.

B

CALCULATE WATTS / FOOT

Flat surface:
Tp = P x A x dT.

Tube/pipe:
Tp = P x L_tube x dT,

P = watts per sq.ft. or per linear ft.
A = Heated Area, square feet
dT= Temperature rise, F above ambient

C

FIND REQUIRED TAPE LENGTH

Divide total wattage (Tp) by E^2 to get tape length. For 100% surface coverage with ¼" with tape, divide area by 3 in^2/ft.

D

CALCULATE OHMS/FOOT

Tape = E^2 / Tp x L

E = Your operating voltage
Tp = Total wattage from step B
L= Length of tape from step C

Match calculated watts/foot to the Resistance Matrix. Pick the code with max W/ft ≥ your requirement. Never exceed the maximum watt density.

Tables for P in calculating watts/foot

Flat surface

Insulation Thickness:	bare	.5"	1"	2"
P Watts/sq.ft./F	.30	.15	.10	.07

Pipe heating

INSULATION THICKNESS	TUBE DIAMETER 1/4"	1/2"	1"	2"
Bare	.10	.13	.21	.40
1/2"	.07	.09	.13	.20
1"		.05	.08	.11

Note: If a heat controller is used, double Tp for faster startup and recovery from cold. Always use grounded metal heat sink along the full tape length at 500°F.

ORDERING REFERENCE

RESISTANCE MATRIX

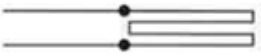
Select the resistance code that meets your required watts/foot. All tape widths are available with parallel, series-parallel, or series conductor configurations. Do not exceed maximum watt densities.

CODE	1/6" — 1 CONDUCTOR		1/4" — 2 CONDUCTORS			1/2" — 4 CONDUCTORS			
	OHM/FT	MAX W/FT	OHM/FT [1]PAR	OHM/FT [2]SER	MAX W/FT	OHM/FT [1]PAR	OHM/FT [3]S-P	OHM/FT [2]SER	MAX W/FT
A	1.9	25	0.9	3.8	40	0.5	1.9	7.6	70
B	3.2	25	1.6	6.4	40	0.8	3.2	12.8	70
C	4.0	23	2.0	8.0	35	1.0	4.0	16.0	62
D	4.9	20	2.4	9.8	30	1.2	4.9	19.6	52
E	7.0	25	3.5	14.0	40	1.7	7.0	28.0	70
F	8.8	23	4.4	17.6	35	2.2	8.8	35.2	62
G	10.8	20	5.4	21.6	30	2.7	10.8	43.2	52
H	13.2	20	6.6	26.4	30	3.3	13.2	52.8	52
J	21.3	13	10.6	42.6	20	5.3	21.3	85.2	32
K	26.8	10	13.4	53.6	16	6.7	26.8	107.2	25
L	32	10	16.0	64.0	16	8.0	32.0	128	25
M	41	10	20.5	82.0	16	10.25	41.0	164	25
N	67	10	33.5	134	16	16.75	67.0	268	25

[1] Conductors in parallel | [2] Conductors in series | [3] Conductors in series-parallel

(1) Ohms/foot with all conductors in parallel connection.

(2) Ohms/foot with all conductors in series connection.



(3) Ohms/foot with conductors in parallel/series connection.