

# Strip & Finned Strip Heaters - SS, SD & FS

Type SS



Type SD



Type FS



## Application

Strip Heaters have many applications, including: surface heating - on platens, dies, moulds, tanks, piping and more; process air heating - both strip and finned strip heaters in drying cabinets, ovens, baking ovens and vacuum dehydrating ovens and for moisture protection for motors, etc.; resistors - as dropping resistors for line applications in railroads and load banks; winterizing - on hoppers, conveyors, ducts, car heating, thawing; original equipment - air conditioning, laboratory equipment, food packaging, ovens, presses and drying equipment.

## Construction

Caloritech™ strip heaters are constructed of specially selected high quality materials, beginning with the high-temperature alloy resistance wire uniformly coiled and spaced over the width of the heated length of the strip heater. This controlled coil process and placement assures uniform heat distribution over the entire active surface of the heater.

Special care is taken to secure the stud-type terminal to the high-temperature alloy resistance contact. The coiled resistance wire is embedded in a special refractory material which possesses excellent heat transfer characteristics and superior insulation properties.

The entire heater assembly is encased in either an aluminized steel or stainless steel sheath and is compressed under high pressure. The completed assembly is heated under controlled conditions to bake and semi-vitrify the refractory material for a rigid, vibration resistant, heavy-duty heating unit.

## Features

Strip heaters are available with aluminized steel or stainless steel sheath. Aluminized steel strip heaters are suitable for applications where the maximum sheath temperature does not exceed 1000°F (538°C). Stainless steel strip heaters are suitable for applications where the maximum sheath temperature does not exceed 1200°F (649°C).

Caloritech™ strip heaters have slotted mounting tabs which allow for lineal expansion during the initial heat up period. The flat surface of the strip heater is suitable for clamp-on applications and provides uniform heat distribution for broad surfaces.

## Finned Strip Heaters

Type SS strip heaters can be finned to improve heat transfer in free or forced air heating applications. See listings for Special Features on page A30.

## Benefits

- Aluminized steel sheath provides both corrosion resistance and an attractive appearance.
- Stainless steel sheath combines additional corrosion protection and excellent appearance.
- Vibration resistant - the compacted semi-vitrified refractory material with the rigid sheathed construction enable strip heaters to withstand severe vibration conditions.
- Rugged construction for long life.
- Application versatility - easy to use in a wide variety of surface and air heating applications.

## Normal Limits

- Maximum Voltage (with Secondary Insulators): 600V
- Maximum Amps: 48 amps
- Overall Length Limit: 42 1/4"
- Effective Length Limit: 39"
- Approx. Weight/Inch of Length: 0.08 lbs/inch
- Maximum Allowable Sheath Temperature:
  - Aluminized Steel: 1000°F (538°C)
  - Stainless Steel: 1200°F (649°C)
- Minimum Lengthwise Factory Bending Radius (Terminals on Outside): 4" (102 mm)

## Selection

Use the graphs shown on this page to assist in the selection of the strip heater or finned strip heater with the correct watt density so that the sheath temperature will not exceed 1000°F (538°C) for aluminized steel and 1200°F (649°C) for stainless steel.

Consult factory for additional assistance.

# Watt Density – Temperature Data

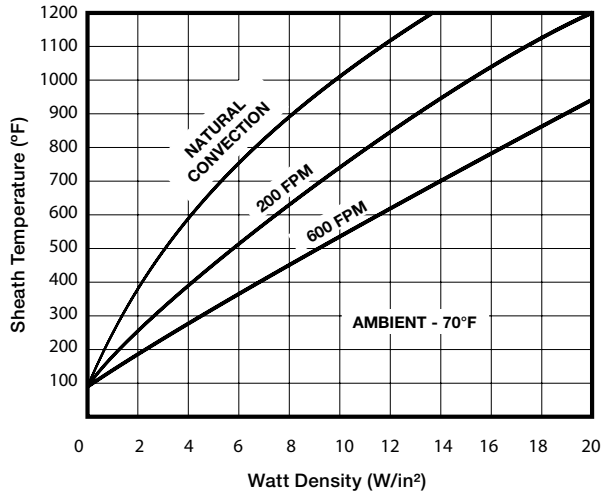


Figure 46 – Strip Heater Sheath Temperature vs. Watt Density for Air Heating Applications

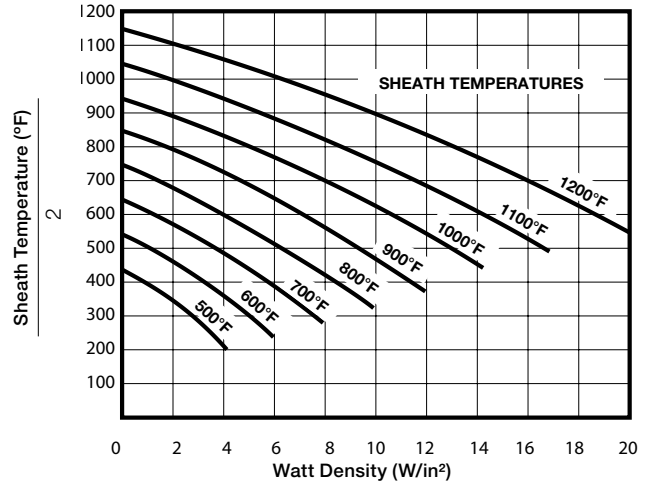


Figure 47 – Strip Heater Sheath Temperature vs. Watt Density for Clamped-on Applications

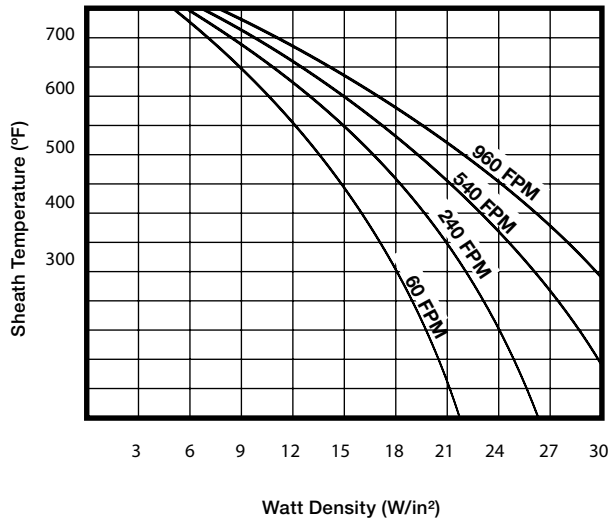


Figure 48 – Finned Strip Heater Outlet Air Temperature vs. Watt Density for 700°F to 750°F (371°C to 399°C) Sheath Operating Temperature

# Strip Heater - SS Series

SS Series strip heaters have two offset bolt type terminals at one end. Table 16 lists heaters having aluminized steel sheath.



## Aluminized Steel Sheath

The entire heater assembly is encased in an aluminized steel sheath and is compressed under high pressure. The sheath provides both corrosion resistance and an attractive appearance. Aluminized steel strip heaters are suitable for applications where the maximum sheath temperature does not exceed 1000°F (538°C).

If higher temperatures are anticipated, use stainless steel heaters listed in Table 17 on page A25.

## Installation

Standard strip heaters listed are rated at 120V and 240V. A limited selection of 287V heaters is also tabled. All strip heaters can be used on voltages lower than listed for reduced wattage, and some designs can also be used on higher voltages - check factory.

Whenever voltage to ground exceeds 300V, secondary insulators must be used. See Special Features on page A30.

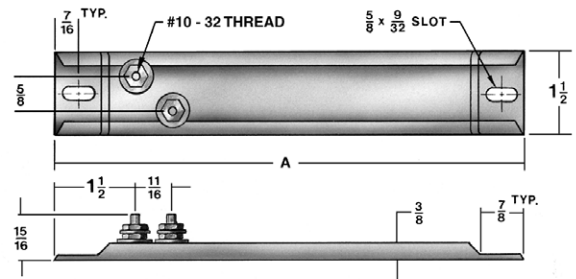


Figure 49

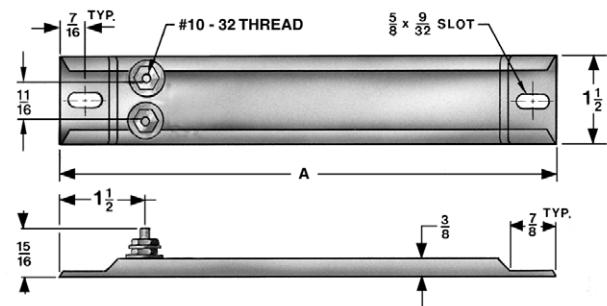


Figure 50

Table 14 – Type SS Strip Heaters: Terminals at One End/Aluminized Steel Sheath

'A' Dim.		Figure No.	Watts	Watts Per		Caloritech™ Catalog No.			Chromalox Cat. No.	
in.	mm			in <sup>2</sup>	cm <sup>2</sup>	120V	240V	287V	120V	240V
5 1/2	140	50	125	15.7	2.4	SS1001	—	—	PT512	—
6	152	50	150	15.2	2.4	SS1011	SS1022	—	PT615	—
7 1/4	184	49	100	8.2	1.3	SS1031	—	—	—	—
7 1/4	184		150	12.3	1.9	SS1041	SS1052	—	OT715	OT715
8	203		150	10.0	1.6	SS1061	SS1072	—	OT815	OT815
8	203		175	11.7	1.8	SS1081	SS1092	—	OT817	OT817
10 1/2	267		250	10.3	1.6	SS1101	SS1112	—	OT1025	—
11 3/4	298		250	8.6	1.3	SS1141	SS1152	—	OT1225	OT122
14	356		300	8.0	1.2	SS1181	SS1192	—	OT1430	OT1430
15	381		325	7.9	1.2	SS1201	SS1212	—	OT1532	OT1532
17 3/4	451		350	6.8	1.1	SS1221	SS1232	—	OT1835	OT1835
17 3/4	451		375	7.3	1.1	SS1241	SS1252	—	OT1837	OT1837
17 3/4	451		500	9.7	1.5	SS1261	SS1272	—	OT1850	OT1850
17 3/4	451		250	4.8	0.7	SS1281	SS1292	—	—	—
19 1/2	495		350	6.0	0.9	SS1301	SS1312	—	—	OT1935
19 1/2	495		500	8.6	1.3	SS1321	SS1332	—	OT1950	OT1950
21	533		500	7.8	1.2	SS1341	SS1352	—	OT2150	OT2150
23 1/2	597		500	6.8	1.1	SS1361	SS1372	SS1386	OT2450	OT2450
23 1/2	597		750	10.3	1.6	SS1391	SS1402	—	OT2475	OT2475
25 1/2	648		500	6.2	1.0	SS1421	SS1432	—	OT2550	OT2550
25 1/2	648		750	9.3	1.4	SS1441	SS1452	—	OT2575	OT2575
26 3/4	679		700	8.2	1.3	SS1461	SS1472	—	—	OT2670
30 1/2	768	750	7.6	1.2	SS1481	SS1492	2A830A706	OT3075	—	
33 1/2	851	750	6.8	1.1	SS1511	SS1522	—	—	OT3375	
35 3/4	908	1000	8.4	1.3	SS1531	SS1542	2A835A703	OT3610	OT3610	
38 1/2	978	800	6.2	1.0	SS1561	SS1572	—	—	—	
38 1/2	978	1000	7.7	1.2	SS1581	SS1592	—	OT3810	—	
42 1/4	1073	1250	8.7	1.3	SS1601	SS1612	—	—	—	
42 1/4	1073	1500	10.5	1.6	SS1621	SS1632	—	—	—	

**Note**

BA0002 ceramic covers are not suitable for strip heaters shorter than 7" (178 cm) in overall length.

## Stainless Steel Sheath

The entire heater assembly is encased in a stainless steel sheath and is compressed under high pressure. The sheath combines additional corrosion protection and excellent appearance. Stainless steel strip heaters are suitable for applications where the maximum sheath temperature does not exceed 1200°F (649°C).

Heaters with high temperature stainless steel sheath are listed in Table 17 on page A26.

## Installation

Standard strip heaters listed are rated at 120V and 240V. A limited selection of 287V heaters is also tabled. All strip heaters can be used on voltages lower than listed for reduced wattage, and some designs can also be used on higher voltages - check factory.

Whenever voltage to ground exceeds 300V, secondary insulators must be used. See Special Features on page A30.

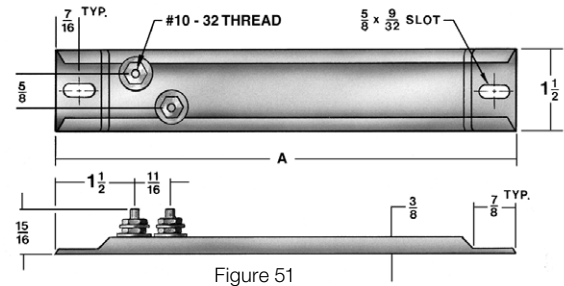


Figure 51

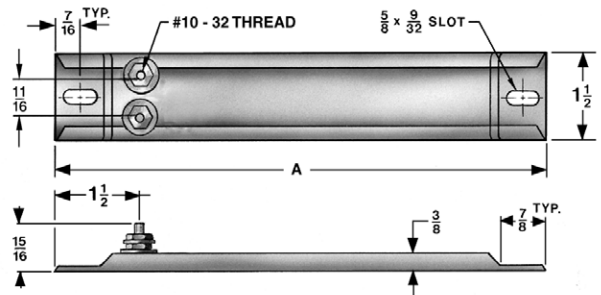


Figure 52

Table 15 – Type SS Strip Heaters: Terminals at One End/Stainless Steel Sheath

'A' Dim.		Figure No.	Watts	Watts Per		Caloritech™ Catalog No.			Chromalox Cat. No.	
in.	mm			in <sup>2</sup>	cm <sup>2</sup>	120V	240V	287V	120V	240V
5 1/2	140	52	250	31.4	4.9	SS2001	—	—	—	—
6	152	52	300	30.5	4.7	SS2011	SS2022	—	—	—
7 1/4	184	51	100	8.2	1.3	SS2031	—	—	—	—
7 1/4	184		200	16.4	2.5	SS2041	SS2052	—	—	OT702
8	203		250	16.7	2.6	SS2061	SS2072	—	OT802	OT802
8	203		400	26.7	4.1	SS2081	SS2092	—	OT804	OT804
10 1/2	267		350	14.4	2.2	SS2101	SS2112	—	OT1003	OT1003
10 1/2	267		400	16.4	2.5	SS2131	SS2132	—	OT1004	OT1004
11 3/4	298		350	12.0	1.9	SS2141	SS2152	—	OT1203	OT1203
11 3/4	298		500	17.2	2.7	SS2161	SS2172	—	OT1205	OT1205
14	356		500	13.3	2.1	SS2181	SS2192	—	OT1405	OT1405
15	381		500	12.1	1.9	SS2201	SS2212	—	—	OT1505
17 3/4	451		350	6.8	1.1	SS2221	SS2232	—	—	—
17 3/4	451		500	9.7	1.5	SS2241	SS2252	2A917A707	—	—
17 3/4	451		750	14.5	2.2	SS2261	SS2272	—	OT1807	OT1807
17 3/4	451		1000	19.4	3.0	SS2281	SS2292	—	OT1801	OT1801
19 1/2	495		500	8.6	1.3	SS2301	SS2312	—	OT1905	OT1905
19 1/2	495		1000	17.2	2.7	SS2321	SS2332	—	—	OT1901
21	533		750	11.8	1.8	SS2341	SS2352	—	OT2107	OT2107
23 1/2	597		500	6.8	1.1	SS2361	SS2372	—	OT2405	OT2405
23 1/2	597		750	10.3	1.6	SS2381	SS2392	2A923A703	OT2407	OT2407
23 1/2	597		1000	13.7	2.1	SS2401	SS2412	—	OT2401	OT2401
25 1/2	648	750	9.3	1.4	SS2421	SS2432	—	OT2507	OT2507	
25 1/2	648	1000	12.4	1.9	SS2441	SS2452	—	—	OT2501	
26 3/4	679	1000	11.7	1.8	SS2461	SS2472	—	—	OT2601	
30 1/4	768	750	7.6	1.2	—	SS2482	—	—	OT3007	
30 1/4	768	1000	10.2	1.6	SS2491	SS2502	2S930A701	—	—	
33 1/2	851	750	6.8	1.1	SS2511	SS2522	—	—	OT3307	
35 3/4	908	1000	8.4	1.3	—	SS2532	—	—	—	
35 3/4	908	1500	12.6	2.0	SS2541	SS2552	2A935A701	—	—	
38 1/2	978	1000	7.7	1.2	SS2561	SS2572	—	OT3801	—	
42 1/4	1073	1250	8.7	1.3	SS2601	SS2612	—	—	—	
42 1/4	1073	1500	10.5	1.6	SS2621	SS2632	—	—	OT4315	

### Note

BA0002 ceramic covers are not suitable for strip heaters shorter than 7" (178 cm) in overall length.

### To Order Specify

- Quantity
- Wattage
- Catalog number
- Special features
- Voltage