



SiC heater is a kind of non-metal high temperature electric heating element. It is made of selected high-purity green silicon carbide as raw material which is made into blank and silicon crystal under high temperature of 2400°C. SiC can usually use in the furnaces which temperature from 600°C-1600°C. It can be directly used in an air atmosphere without any protection atmosphere the long-term usage of life can reach over 3000 hours. Furthermore, it has a higher working temperature and chemical stability, easy installation and extensively used in the fields metallurgy, ceramics, glass, machinery, analysis test, semiconductor, science and so on. Silicon carbide is a ceramic material with relatively high electrical conductivity

when compared to other ceramics. Typical heating elements are rods or tubes, with diameters between 0.5 and 3 inches and lengths from 1 to 10 feet. They have metalized ends for electrical connections, and they often have both connections at one end, with two helical slots stop short of the other end, thus approximating a twisted hairpin form.

## Application

SiC Heater is designed with specially formulated cold ends which significantly reduce the heat loss from the terminals concentrating the heat where needed in the furnace. Reduced heat losses result in lower power consumption saving energy costs also helping to reduce the furnace carbon footprint by lowering the greenhouse gas emission.

### Metal Industries

- Powder metallurgy sintering
- Solution, molten cast holding, and aging processing of aluminum alloy
- Gas carburizing hardening of components for automotive, aircrafts, and machinery
- Carburizing, nitriding, and bright annealing for steel parts
- Hardening and tempering of various dies
- Brightness processing of die steel
- Tempering and soldering of machine components
- Carbon and sulphur analysis, tempering process for band steel
- Patenting processing for steel wire

### Electronics Industry

- Firing of ceramic capacitors
- Sintering of alumina and steatite
- Firing of piezoelectric elements
- Firing of I.C. substrate and grazing
- Firing of ceramic resistors, varistor and thermistors
- Temporary sintering and calculations of soft and hard ferrite
- Heat treatment of shadow mask for colour TV, pure iron, permalloy, bright annealing of silicon steel plate, heat treatment of copper soldering, optical fibre, and compact discs

## Porcelain Industry

- Fusion, retention, and gradual cooling of glass
- Surface treatment of glass
- Heat treatment of liquid crystal
- Lens matching
- Manufacturing of safety glass
- Manufacturing of ceramics and glass fibre
- Manufacturing of various fine ceramics
- Firing of quartz raw materials
- Firing of porcelain enamel
- Firing of ceramic ware
- Firing of grind stone
- Test for various refractory products

## Chemical Industry

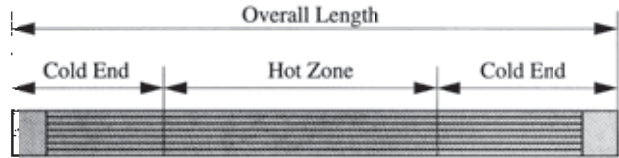
- Firing of fluorescent paint
- Firing of various pigments
- Firing of carriers and catalyst
- Heating of reactive gas
- Coal carbonization
- Firing of activated carbon
- Cleaning furnace and deodorizing furnace

## Others

- Various high temperature test furnaces
- Ignition of gas and kerosene appliances
- Ignition of various types of industrial equipment
- Various high temperature tests
- Local heating
- Ash melting surface

## Materials

Silicon Carbide



The heating section has features equivalent to those of D3- type products. Modification of terminal sections was made to decrease their resistance to make these products an energy saving type with low heat loss from terminals.

Size					Nominal Loading Values		
Dia meter	Hot Zone Length	Cold End Length	Overall Length	Hot Zone Surface Area			
mm	mm	mm	mm	cm <sup>2</sup>			
12	150	150	450	56	36	920	1.41
	200	200	600	75	49	1250	1.92
	250	200	650	94	60	1530	2.35
	300	200	700	113	71	1810	2.78
14	200	200	600	88	47	1480	1.49
	250	250	750	110	58	1830	1.84
	300	250	800	132	69	2170	2.19
	350	200	750	154	78	2460	2.48
16	400	250	900	176	90	2840	2.86
	300	250	800	150	64	2430	1.68
	350	350	1050	176	76	2890	2.00
	400	350	1100	200	86	3270	2.26
20	450	250	950	225	93	3530	2.45
	500	250	1000	250	103	3910	2.71
	600	250	1100	300	122	4640	3.21
	300	400	1100	188	61	3260	1.14
25	400	350	1100	251	78	4170	1.46
	500	400	1300	314	97	5190	1.81
	600	400	1400	376	114	6100	2.13
	700	400	1500	439	132	7060	2.47
30	800	300	1400	502	147	7870	2.75
	900	300	1500	565	165	8830	3.08
	300	300	900	236	52	3720	0.73
	400	450	1300	314	71	5080	0.99
35	500	400	1300	392	86	6150	1.20
	600	400	1400	470	102	7290	1.43
	700	400	1500	550	118	8440	1.65
	800	400	1600	627	134	9580	1.87
40	900	300	1500	705	148	10600	2.07
	1000	300	1600	785	164	11700	2.29
	400	300	1000	380	62	5800	0.66
	500	300	1100	470	77	7200	0.82
45	600	400	1400	570	93	8700	0.99
	700	450	1600	660	108	10100	1.16
	800	500	1800	750	124	11600	1.33
	900	400	1700	850	136	12700	1.45
50	1000	300	1600	940	149	13900	1.59
	1100	300	1700	1035	164	15300	1.75

Size					Nominal Loading Values		
Dia meter	Hot Zone Length	Cold End Length	Overall Length	Hot Zone Surface Area			
mm	mm	mm	mm	cm <sup>2</sup>			
35	400	400	1200	440	65	6960	0.61
	500	400	1300	550	80	8560	0.75
	600	400	1400	660	95	10200	0.89
	700	400	1500	770	110	11800	1.03
	800	400	1600	880	125	13400	1.17
	900	400	1700	990	140	15000	1.31
	1000	400	1800	1100	155	16600	1.45
	1100	400	1900	1210	170	18200	1.59
	1200	400	2000	1320	185	19800	1.73
	1300	400	2100	1430	200	21400	1.87
40	1400	400	2200	1540	215	23000	2.01
	1500	400	2300	1650	230	24600	2.15
	1600	300	2200	1760	243	26000	2.27
	1700	300	2300	1870	258	27600	2.41
	500	400	1300	628	75	9830	0.57
	600	400	1400	753	89	11700	0.68
	700	400	1500	880	103	13500	0.79
	800	400	1600	1005	116	15200	0.89
	900	400	1700	1130	130	17000	0.99
	1000	400	1800	1255	144	18900	1.10
45	1100	400	1900	1381	158	20700	1.21
	1200	400	2000	1506	172	22500	1.31
	1300	400	2100	1630	186	24400	1.42
	1400	400	2200	1760	200	26200	1.53
	1500	400	2300	1880	213	27900	1.63
	1600	300	2200	2010	226	29600	1.73
	1700	300	2300	2140	240	31400	1.83
	500	400	1300	710	61	10200	0.36
	600	400	1400	850	72	12100	0.43
	700	400	1500	990	84	14100	0.50
800	400	1600	1130	95	16000	0.57	
50	900	400	1700	1270	106	17800	0.63
	1000	400	1800	1410	118	19800	0.70
	1200	400	2000	1700	140	23500	0.84
	1500	400	2300	2120	174	29200	1.04
	1800	400	2600	2540	208	34900	1.24
	2000	400	2800	2830	231	38800	1.37
	1000	400	1800	1570	123	22800	0.70
	1500	400	2300	2360	182	33800	1.00
1700	400	2500	2670	205	38200	1.10	
2000	400	2800	3140	241	44800	1.30	

- Nominal Loading Values are measured with an EREMA Heating Element surface temperature of 1000°C in open air, and resistance values have a manufacturing tolerance of ±15%
- Products of other sizes than those listed above are also manufactured.

- Manufacturable dimensions  
E Types Diameter 30mm Hot zone 1800mm overall length 2400mm  
F Types Diameter 50mm Hot zone 2000mm overall length 2800mm