



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

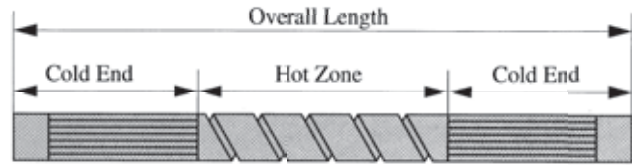
- Firing of fluorescent paint
- Firing of various pigments
- Firing of carriers and catalyst
- Heating of reactive gas
- Coal carbonization
- Firing of activated carbon
- Cleaning furnace and deodorizing furnace

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



Heating elements of this type have spiral grooves on their heating section and are given higher resistances to high temperature and corrosion than D-3, E and F type products so as to withstand severe operating environments. The inner part of products with larger diameters can be used as a tube type furnace.

Terminal sections have been devised to provide low resistance, and have energy-saving properties as in E-type products.

Size				Hot Zone Surface Area	Nominal Loading Values		
Dia meter	Hot Zone Length	Cold End Length	Overall Length		Volts	Watts	Ohms
mm	mm	mm	mm	cm ²			
14	200	200	600	88	58	1620	2.08
	200	250	700	88	59	1650	2.11
	250	200	650	110	70	1960	2.50
	250	250	750	110	71	1990	2.53
	300	250	800	132	84	2350	3.00
16	200	250	700	101	58	1970	1.71
	250	200	650	126	68	2310	2.00
	250	250	750	126	69	2350	2.03
	250	300	850	126	69	2350	2.03
	300	200	700	151	79	2690	2.32
	300	250	800	151	80	2720	2.35
	300	300	900	151	80	2720	2.35
	350	250	850	176	93	3160	2.74
20	300	400	1100	188	82	3360	2.00
	350	400	1150	220	94	3850	2.30
	400	400	1200	251	106	4350	2.58
	450	400	1250	283	119	4880	2.90
25	300	400	1100	236	82	4020	1.67
	300	500	1300	236	86	4210	1.76
	400	400	1200	314	108	5290	2.20
	500	400	1300	393	133	6520	2.71

Size				Hot Zone Surface Area	Nominal Loading Values		
Dia meter	Hot Zone Length	Cold End Length	Overall Length		Volts	Watts	Ohms
mm	mm	mm	mm	cm ²			
30	300	400	1100	283	77	4850	1.22
	300	500	1300	283	80	5040	1.27
	400	400	1200	377	101	6360	1.60
	400	500	1400	377	104	6550	1.65
	500	400	1300	471	125	7880	1.98
	600	400	1400	565	149	9390	2.36
35	400	400	1200	440	99	7520	1.30
	400	500	1400	440	102	7750	1.34
	500	400	1300	550	123	9350	1.62
	500	500	1500	550	125	9500	1.64
	600	400	1400	660	146	11100	1.92
	700	400	1500	770	169	12840	2.22
40	500	400	1300	628	113	10620	1.20
	500	500	1500	628	117	10760	1.27
	600	400	1400	754	135	12690	1.44
	600	450	1500	754	139	12790	1.51
45	700	450	1600	990	147	16610	1.30
	800	400	1600	1131	168	18980	1.49

- 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 ± 20%
- Products of other sizes than those listed above are also manufactured.
- Manufacturable dimensions Diameter 45mm Hot zone 800mm overall length 1600mm