

Products



DG range

Liquid heated silicon nitride ceramic heating elements

Technical specifications:

Model: Custom Specification

Rated voltage: 220V, 50/60Hz

Rated power: 1000w-3000w

Electrical strength of insulation: 2500V.50Hz at room temperature, no breakdown within one minute

Leakage current: <0.025mA in normal working condition, <10mA in water after breakage

Acid corrosion resistance: boiling in 5% sulfuric acid solution for 6h, corrosion rate <10g/m2.h

Alkali corrosion resistance: boiling in 30% sodium hydroxide solution for 6h, corrosion rate <0.6g/m2.h.

Lifespan: 5000h

Room temperature flexural strength	$\geq 900\text{Mpa}$	Room temperature fracture toughness	6.0-8.0 Mpa.m ^{1/2}
Bulk density	3.20-3.4g/cm ³	Room temperature volume resistivity	10 ¹⁴ Ω.cm
Relative dielectric constant at room temperature	6-7	Thermal conductivity	23-25W/(m-k)
Coefficient of thermal expansion	3.1 × 10 ⁻⁶ /°C	Hardness	HRA92-94

Hardness (HRA)	Fracture toughness (Mpa.m ^{1/2})	Flexural strength (Mpa)
92.0~94.0	6.0~8.0	≥ 900

This product is a liquid heating type silicon nitride ceramic electric heating element, suitable for medium: liquid, water, water heater within 2800W, water boiler within 2200W, steam machine within 1500W. Can be equipped with "J", "K", "L", "R", "U" type package.

Executive standard: JB/T10320-2002 Electric heating elements for household and similar purposes

This product uses high performance silicon nitride ceramics as the substrate, with high mechanical strength at high temperature, strong resistance to thermal shock, acid and alkali corrosion resistance, excellent insulation properties as well as good thermal conductivity, and our proprietary formulation and hot pressing manufacturing technology, which gives this product the following excellent properties and characteristics.

- ⊙ Good electrical safety, leakage current less than 10mA after breakage
- ⊙ High temperature resistance, dry point up to 1300°C
- ⊙ High surface loading, up to 78w/cm² for heating liquids
- ⊙ Small size, high power
- ⊙ Low thermal inertia, fast heat-up rate
- ⊙ Long life span
- ⊙ Application range of silicon nitride ceramic heating elements for acid and alkali resistant liquid heating
- ⊙ Fast heating and storage water heaters
- ⊙ Thermostatic bath heater
- ⊙ Sauna steam generator
- ⊙ Fast heating liquid heaters
- ⊙ Electric direct heating taps and liquid heaters
- ⊙ Energy saving fast heating electric water heater
- ⊙ Electric heaters

It is widely used in instantaneous, direct heating and storage water, energy saving fast heating electric water heater, fast heating liquid heating, electric ambient, hot and cold drinking machine, air conditioning heater, air energy heater, instant hot water tap, thermostat, steam generator and other domestic, industrial and commercial electric heater industries.