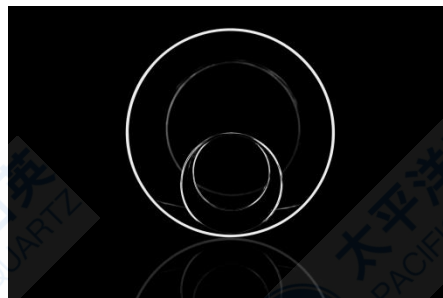




Semiconductor Grade Quartz Tube

I. Application

Semiconductor grade quartz tube is widely used in the oxidation and diffusion process in semiconductor wafer manufacturing.



II. Characteristics

Semiconductor grade quartz tube features high purity, low hydroxyl and good high-temperature resistance, etc.

III. Code

PQ181E 、 PQ181E H、 PQ181E-R、 PQ181EH-R

IV. Typical Size

OD Range	OD Tolerance	WT Tolerance	Siding	Ovality	Bow
OD < 100.00	±1.00	±10.00%	15.00%	1.00%	0.10%
100.00≤OD < 200.00	±1.00	±10.00%	15.00%	1.00%	0.10%
200.00≤OD < 300.00	±1.00	±10.00%	15.00%	1.00%	0.10%
300.00≤OD < 400.00	±1.00	±10.00%	15.00%	1.00%	0.10%
400.00≤OD < 500.00	±1.00	±10.00%	15.00%	1.00%	0.10%
500.00≤OD < 900.00	±2.00	±10.00%	15.00%	1.00%	0.10%



V. Physical & Chemical Properties

i. Trace Elements

Unit: ppm

Code	Criteria	Al	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ti	Zr
PQ181E	Typical	13	0.5	<0.05	<0.05	0.1	0.1	0.3	0.05	0.05	0.1	1.3	1
PQ181E-R	Maximum	19	1	0.1	0.1	0.5	1	1	0.2	0.2	1	2	2
PQ181EH	Typical	8	0.6	<0.05	<0.01	0.1	0.1	0.2	0.05	0.05	0.1	1.3	1
PQ181EH-R	Maximum	10	1	0.1	<0.01	0.5	0.5	0.5	0.2	0.2	0.5	2	2

Note: PQ181E-R/PQ181EH-R is semiconductor grade resized tube.

ii. OH Content

PQ181E/ PQ181EH	OH < 10ppm	PQ181E-R/ PQ181EH-R	OH < 30ppm
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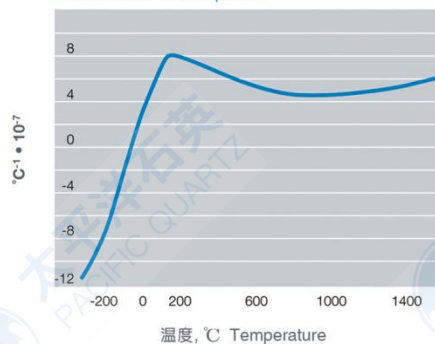
iii. Physical Properties

Item	Index Value
Density (g/cm ³)	2.2
Heat Conductivity (w/m-k, 1000°C)	2.28
Coefficient of Thermal Expansion (°C ⁻¹ , 1000°C)	5.5×10 ⁻⁷
Softening Point (°C)	1670
Annealing Point (°C)	1210
Strain Point (°C)	1110



iv. Coefficient of Thermal Expansion & Viscosity

膨胀系数
Coefficient of Thermal Expansion



粘度
Viscosity

