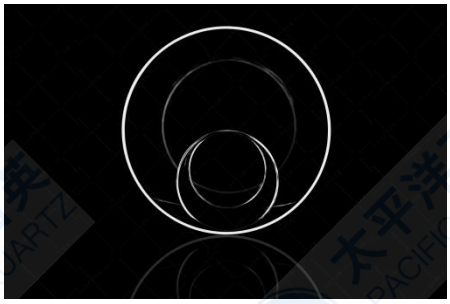
Solar Grade Quartz Tube

I. Application



Solar grade quartz tube is used as the base material for quartz components of diffusion and PE process in solar cell manufacturing.

II. Characteristics

Solar grade quartz tube features high purity, low hydroxyl, etc.

III. Code

PQ181S、PQ181S-R

IV. Typical Size

OD Range	OD Tolerance	WT Tolerance	Siding	Ovality	Bow
OD < 100.00	±1.00	±10.00%	20.00%	1.00%	0.10%
100.00≤OD < 200.00	±1.00	±10.00%	20.00%	1.00%	0.10%
200.00≤OD < 300.00	±1.00	±10.00%	20.00%	1.00%	0.10%
300.00≤OD < 400.00	±1.00	±10.00%	20.00%	1.00%	0.10%
400.00≤OD < 500.00	±1.00	±10.00%	20.00%	1.00%	0.10%
500.00≤OD < 900.00	±2.00	±10.00%	20.00%	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
PQ181S、PQ181S-R	Typical	16.2	1	<0.05	<0.05	0.5	1.2	0.9	0.2	<0.05	1.1	1.5	1
	Maximum	25	1.5	0.1	0.1	1	1.5	1.5	0.2	0.2	2	4	2

Note: PE181S-R is solar grade resized tube

ii. OH Content

PQ181S	OH < 10ppm	PQ181S-R	OH < 30ppm

iii. Physical Properties

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

iv. Coefficient of Thermal Expansion & Viscosity