久瑞石英

JIURUI QUARTZ

INTRODUCTION TO JIURUI QUARTZ STANDARD GRADE AND SEMICONDUCTOR GRADE PRODUCTS

久瑞石英标准级和半导体级产品介绍

www.jrquartz.com

公司介绍
COMPANY PROFILE

东海县久瑞石英制品有限公司是一家集科研、生产、销售为一体的高端石英材料深加工企业。公司创建与2010年，现占地面积25223㎡。主要品种有大口径及厚壁大口径透明石英玻璃管、大口径滤紫外线、负压管、无臭氧、低羟基（可实现0H小于5ppm）和光源用石英玻璃管、石英玻璃棒、石英片、石英舟、石英坩埚、石英烧杯等各种石英玻璃仪器、器皿深加工的生产能力。适用于：半导体、光伏、5G通信、新能源、光学、光通信、航空航天、国防、化工、冶金、实验室、科研领域、电光源与医疗设备等！

公司秉承共赢的发展准则，注重与客户建立长远的战略合作伙伴关系，坚持可持续发展方针，与众多国内外知名企业有着深度、紧密的业务合作。其中半导体领域用石英材料已经获得多家国际知名企业认可！

Donghai Jiurui Quartz Products Co., Ltd. is a high-end quartz material deep processing enterprise that integrates scientific research, production, and sales. The company was founded in 2010 and currently covers an area of 25223 square meters. The main varieties include large-diameter and thick walled large-diameter transparent quartz glass tubes, large-diameter UV filters, negative pressure tubes, ozone free, low hydroxyl (able to achieve 0H less than 5ppm), and various quartz glass instruments and vessels for deep processing of light sources, such as quartz glass tubes, quartz glass rods, quartz plates, quartz boats, quartz crucibles, quartz beakers, etc. Suitable for: semiconductors, photovoltaics, 5G communication, new energy, optics, optical communication, aerospace, national defense, chemical industry, metallurgy, laboratories, scientific research fields, electric light sources and medical equipment, etc!

The company adheres to the development principle of win-win, focuses on establishing long-term strategic partnerships with customers, adheres to the sustainable development policy, and has deep and close business cooperation with many well-known domestic and foreign enterprises. Quartz materials used in the semiconductor field have been recognized by multiple internationally renowned enterprises!

石英玻璃标准物理性能
Standard physical properties of quartz glass

石英玻璃标准物理性能

密度[Density]:2.2g/cm²
硬度[Rigidity]:5.5-6.5Mohs'579HN100
抗压强度[Tensile Strength]:4.8x10^7Pa(N/M^2)
抗压强度[CompressiveStrength]>1.1x10^9Pa
刚性模量[Regality Modulus]:3.1x10^10Pa
杨氏模量[Yangs Modulus]:7.2x10^5Pa
热膨胀系数[Thermal expansion coefficient]:(20-320℃)5.5x10-7cm'℃
导热率[conductivity](20℃):1.4W/m℃
比热[Specific heat]:670J/KG℃
折射率[refractive index]:1.4585
软化点[softening point]:1683℃
退火点[Annealing point]:1215℃
变形点[Strain point]:1120℃
最大连续工作温度[Max temperature for continuous work]:1100℃
最大短期工作温度[Maxtemperature for periodic work]:1300℃
电阻率[Resistance][ohm cm @350℃]:7x10^9
介电常数[1MHZ]:3.75
绝缘强度[Insulation strength]:5x10^(7)V/M

典型杂质含量分析(ppm)

TYPE	Al	B	Ca	Co	Fe	K	LI	Mg	Mn	Ni	Ti	Na
180	20	0.2	2.0	0.3	1.0	3.5	1.0	0.5	0.5	0.5	2.0	3.5

羟基控制水平

PA普通脱羟Air baking OH≤20ppm
PB普通特别脱羟Special air baking OH≤10ppm
ZA真空脱羟Vacuum baking OH≤5ppm
ZB真空特别脱羟Special vacuum baking OH≤2 ppm
ZC真空极度脱羟Extreme vacuum baking OH≤1 ppm

半导体级物理性能

Semiconductor grade physical properties

产品规格: **单位(Unit):mm**

外径范围 OD Range	外径偏差 OD Tolerance	壁厚度 WT Tolerance	偏壁度 siding	椭圆度 Ovality	弯曲度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%

物理化学性能

杂质含量 Trace Elements **单位(Unit):ppm**

标准 Criteria	Al	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ti	Zr
典型值 typical	13.0	0.50	<0.05	<0.05	0.10	0.10	0.30	0.05	0.05	0.10	1.30	1.00
最大值 Maxim um	19.0	1.00	0.10	0.10	0.50	1.00	1.00	0.20	0.20	1.00	2.00	2.00
典型值 Typlcal	8.00	0.60	<0.05	<0.01	0.10	0.10	0.20	0.05	0.05	0.10	1.30	1.00
最大值 Maxim um	10.0	1.00	0.10	<0.01	0.50	0.50	0.50	0.20	0.20	0.50	2.00	2.00

羟基含量

单位(Unit):ppm

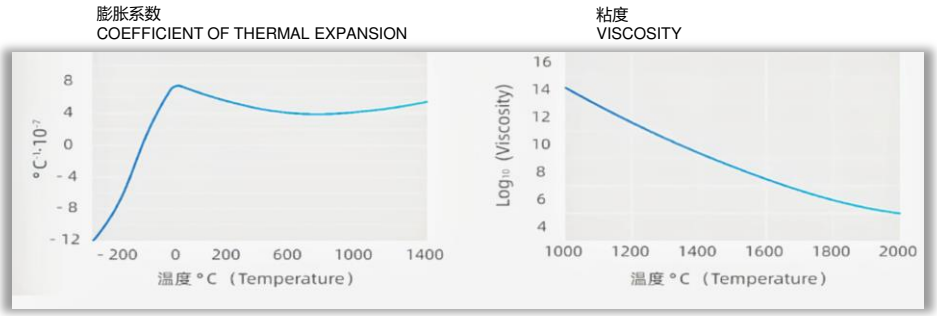
羟基含量	单位(Unit):ppm
PQ181E / PQ181EH	OH<10

物理性能

项目Items	指标值values
体积密度Density（g/cm³)	2.2
导热系数 Heat Conductivity(w/m.k,1000℃)	2.28
热膨胀系数 Coefficient Of Thermal Expansion（℃⁻¹，1000℃)	5.5 ×10^(-7)
软化点Softening Point(℃)	1670
退火点 Annealing Point(℃)	1210
应变点Strain Point(℃)	1110

热膨胀系数和粘度

Coefficient of ThermalExpansion & Viscosity



低羟基半导体级电熔石英仪器
Low hydroxyl semiconductor grade fused quartz instrument

杂质含量 Trace Elements

单位(Unit):ppm

产品类型	标准 Criteria	Al	Ca	Cr	Cu	Fe	K	Li	Mg	Mn	Na	Ti	Zr
PQ800E	典型值 typical	13.0	0.50	<0.05	<0.05	0.10	0.10	0.30	0.05	0.05	0.10	1.30	1.00
	最大值 Maxim um	19.0	1.00	0.10	0.10	0.50	1.00	1.00	0.2	0.20	1.00	2.00	2.00
PQ800EH	典型值 Typlcal	8.00	0.60	<0.05	<0.01	0.10	0.10	0.20	0.05	0.05	0.10	1.30	1.00
	最大值 Maxim um	10.0	1.00	0.10	<0.01	0.50	0.50	0.50	0.20	0.20	0,50	2.00	2.00

羟基含量

单位(Unit):ppm

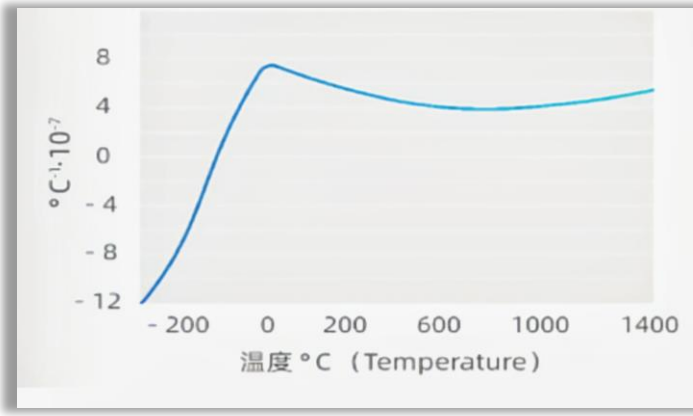
羟基含量	单位(Unit):ppm
PQ181E / PQ181EH	OH<10

物理性能

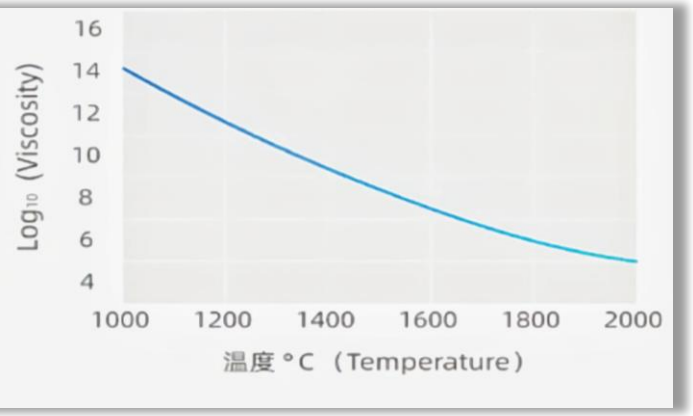
项目Items	指标值values
体积密度Density（g/cm³)	2.2
导热系数 Heat Conductivity(w/m.k,1000℃)	2.28
热膨胀系数 Coefficient Of Thermal Expansion（℃⁻¹，1000℃)	5.5×10^(-7)
软化点Softening Point(℃)	1670
退火点 Annealing Point(℃)	1210
应变点Strain Point(℃)	1110

热膨胀系数和粘度
Coefficient of ThermalExpansion & Viscosity

膨胀系数
COEFFICIENT OF THERMAL EXPANSION



粘度
VISCOSITY



高纯白色不透明石英材料

HIGH PURITY WHITE OPAQUE QUARTZ MATERIAL

典型产品规格Typical Product size

单位(Unit):mm

可加工最大尺寸 Max Finished Size

	长度/直径 length/oD	宽度 Width	高度/厚度 Heigh/Thickness
砣芯 Core	600	-	60
正方板 Squre Plate	500	500	60
长方板Rectangular Plate	800	300	60
圆环Ring	600	-	90

物理化学性能Physical & Chemical Properties

力学&热学性能Mechanical & Thermal Properties

性能 Properties	项目 Items	PQ052E
基本性能 Physical Propertles	气孔率 porosIty	0.2296%
	孔径 Bore Size	<20um
	最高连续工作温度-短时间（℃） Hlghcst Contlnuous lyorking Temperatue-shortTime(℃)	1300
	最高连续工作温度点-长时间(℃) Hlghest Contlouotus Working Temperature Point-long Time (℃)	1150
	热膨胀系数（K-1) Coeffidents of Thermol Dxponsloo (K-1)	0.47*10-6(20-320℃)
热学性能 Thormal Proporties	导热系数（20，W/m·k) ThermalConductivity(20C,W/m-k)	0.845
	比热容（J·G-1·K-1) Speciflc Heat (U-G-7·k-1)	0.6559
	介电常数（500MHZ，20 ℃) Permitivity(500mhz,20℃)	3.8(500MHZ,20℃)
	介电损耗 Dielectrlc Losg	0.0001
电学性能 Elcctrical Properties	抗拉强度（MPA) Tensile Sorength(iMpa)	50
	弯曲强度（MPA) Flexural Srongth (Mpa)	83
	抗扭强度（MPA) Tors1onal Srength(Mpa)	29

杂质含量(典型值)Trace Elements (Typical)

单位(Unit):ppm

产品类型 code	Al	Ca	Cu	Fe	K	Li	Mg	Na
PQ052E	12.0	1.00	<0.05	0.60	0.50	0.90	0.30	1.00

透过率Transmission

各材料光透过率测试结果（wt：5mm）

TRANSMISSION