Transparent Quartz Tube



Applications

Process chambers, tubes and parts

for semiconductor,

photovoltaic and industrial applications

Characteristics

High purity, temperature stability,corrosion resistant, transparent

JNM Quartz material grades are qualified at major players in the semiconductor and light industry， heater industry.JNC offers quartz glass tubes in a very broad diameter range from 2 mm up to 500 mm. It is a specialty of JNC to be able to supply tubes made by various production routes and of different material grades. Quartz glass tubes are either drawn in a cost efficient single step process(NC-100) or a very flexible multi step process.



In the single step process （NC-100）, very pure and tightly controlled raw material is continuously electrically fused to form quartz glass tubes.
The range of direct-drawn tubes covers an outer diameter of 2– 350 mm with a wall thickness from 1 mm up to 10 mm depending on the outer diameter. These tubes are available with snap cut or machine cut ends. In the multi step process, batches of quartz glassare formed to the desired dimensions.
According customer requirement using furnace to reduce the OH value of the tubes

Transparent Quartz Tube Dimension and tolerance (mm)

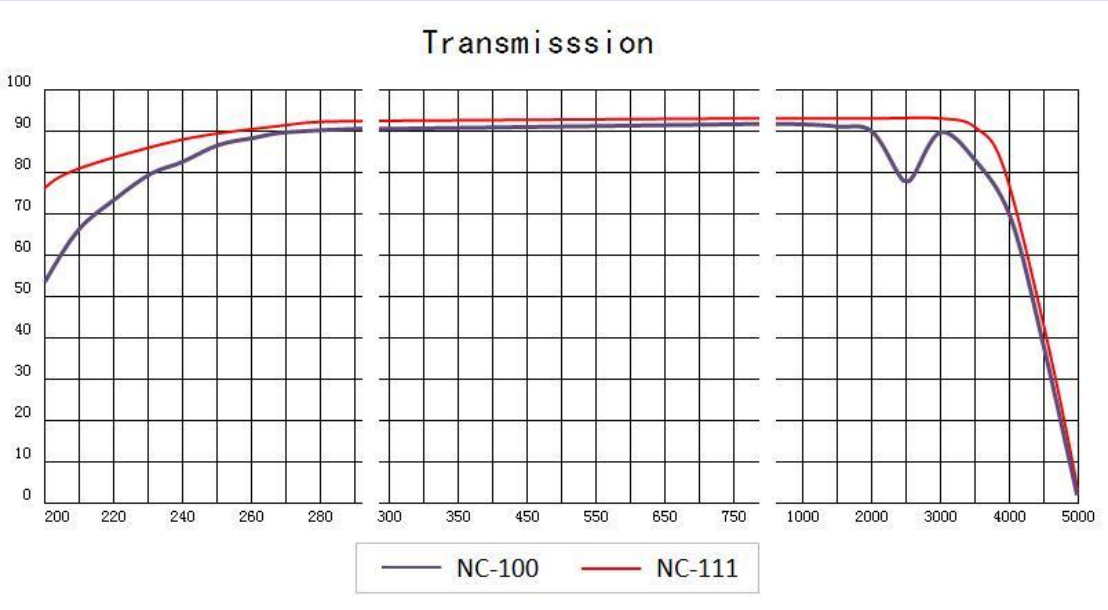
Designation	OD	Thickness	Length	Max Side	Max Ovality	Max Bow
<10	±0.15	±0.10	±1.0	0.10	0.15	2‰
10-15	±0.20	±0.10	±1.0	0.12	0.20	2‰
15-20	±0.30	±0.15	±1.0	0.13	0.25	2‰
20-30	±0.40	±0.15	±1.0	0.15	0.30	2‰
30-40	±0.60	±0.15	±1.0	0.25	0.40	2‰
40-50	±0.80	±0.20	±1.0	0.30	0.50	2‰
50-65	±1.00	±0.20	±2.0	0.40	0.60	2.5‰
65-85	±1.50	±0.30	±2.0	0.50	0.80	2.5‰
85-100	±1.50	±0.30	±2.0	0.60	1.00	2.5‰
100-150	±1.50	±0.30	±2.0	0.60	1.00	2.5‰
150-200	±1.50	±0.50	±2.0	0.60	1.00	2.5‰
200-250	±1.50	±0.50	±2.0	0.60	1.00	2.5‰
250-300	±1.50	±0.50	±2.0	0.60	1.00	2.5‰
300-400	±2.00	±0.50	±2.0	0.60	1.00	2.5‰
400-500	±2.00	±0.50	±2.0	0.60	1.00	2.5‰

Chemical element composition (Tyical data) ppm

	Al	Fe	K	Li	Cu	Na	B	Ca	Mg	P	Ti	OH
NC-100	25	0.8	1.2	0.8	0.08	2	0.5	0.8	0.25	---	---	150
NC-110	15	0.2	0.6	0.4	0.02	0.8	0.1	0.4	0.05	0.06	1.2	120

WWW.JNMQUARTZS.COM E-mail: jy@jnmquartz.com Tel: +86-416-3200288
Fax:+86-416-3200299

NC-120	8	0.2	0.2	0.1	0.01	0.4	---	0.6	0.01	---	1.9	110



Tranparent quartz glass tube property

Property	NC-100	NC-111 NC-120
Density	$2.2\times10^3kg/m^3$	$2.2\times10^3kg/m^3$
Hardness	$570KHN_{100}$	$580KHN_{100}$
Tensile Strength	$4.8\times10^7Pa(N/m^2)$	$4.9\times10^7Pa(N/m^2)$
Compression Strength	$>1.1\times10^9Pa$	$>1.1\times10^9Pa$
Cofficient of Thermal Expansion(20-300℃)	$5.5\times10^{-7}cm/cm℃$	$5.5\times10^{-7}cm/cm℃$
Thermal Conductivity(20℃)	1.4W/m℃	1.4W/m℃
Specific Heat	660J/kg℃	670J/kg℃

Softening Point	1630℃	1680℃
Annealing Point	1180℃	1215℃

WWW.JNMQUARTZS.COM E-mail: jy@jnmquartz.com Tel: +86-416-3200288
Fax:+86-416-3200299