

Opaque quartz tube

Application

Sinter , Electrical heater , Solar ,
Heat Insulation

Characteristic

High purity , Thermal Stability , Erosion Resistance , Insulativity



JNC Quartz glass tubes are either drawn in a cost efficient single step process(NC-100) or a very flexible two step process (NC-U300) ,the another method is rotation fusion.(NC-U400)

NC-U100

In the single step process (NC-U100) , 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 5– 30 mm with a wall thickness

from 1 mm up to 2mm depending on the outer diameter. These tubes are available with snap cut or machine cut ends.



Opaque Quartz Tube (NC-U100) Dimension and tolerance (mm)

Designation	OD	Thickness	Length	Max Side	Max Ovality	Max Bow
5-8	±0.25	±0.10	±1.0	0.1	0.2	2‰
8-12	±0.30	±0.10	±1.0	0.15	0.2	2‰
12-15	±0.40	±0.15	±1.0	0.2	0.3	2‰
15-20	±0.50	±0.15	±1.0	0.2	0.4	2‰
20-30	±0.80	±0.20	±1.0	0.3	0.5	3‰

NC-U300

In flexible two step process (NC-U300) , very pure quartz sand is electrically fused to form quartz glass ingot. Then remelt the ingot by the furnace, drawing the tube.

The range of drawn tubes covers an outer diameter of 8– 120 mm with a wall thickness depending on the outer diameter.



Opaque Quartz Tube (NC-U300) Dimension and tolerance (mm)

Designation	OD	Thickness	Length	Max Side	Max Ovality	Max Bow
8-15	±0.50	±0.50	±1.0	0.5	0.4	3‰
15-25	±0.70	±0.50	±1.0	0.5	0.4	3‰
25-40	±0.80	±0.60	±1.0	0.8	0.5	3‰
40-60	±1.50	±0.80	±1.0	0.8	0.6	3‰
60-90	±2.0	±1.0	±1.5	1	0.8	3‰
90-120	±3.0	±1.50	±2.0	1.5	1	5‰

NC-U400

This fusion method is called rotation fusion .

The tubes have even thickness with completely round and used for baking furnace tube, sinter tube, and others widely usage .

Max Dia 1200mm *1000mm Length



Opaque Quartz Tube (NC-U400) Dimension and tolerance (mm)

Designation	ID	Thickness	Length
100	±4	7-12	±5.0
150	±4.5	12-22	±5.0
200	±5	15-25	±5.0
300	±6	20-35	±5.0
600	±6	25-40	±5.0
1200	±10	30-45	±5.0

Chemical element composition (Typical) ppm

	Al	Fe	K	Li	Cu	Na	B	Ca	Mg	P	Ti
NC-U300	45	1	2.5	1.5	0.15	5	---	1.5	0.75	---	---
NC-U310	15	0.2	0.6	0.4	0.02	0.8	0.1	0.4	0.05	0.06	1.2
NC-U400	45	1	2.5	1.5	0.15	5	---	1.5	0.75	---	---
NC-U410	15	0.2	0.6	0.4	0.02	0.8	0.1	0.4	0.05	0.06	1.2

Opaque quartz glass property

Property	NC-U100	NC-U300/U400
Density	$1.92 \times 10^3 \text{ kg/m}^3$	$1.95 \times 10^3 \text{ kg/m}^3$
Compression Strength	$>1.0 \times 10^9 \text{ Pa(N/m}^2\text{)}$	$>1.0 \times 10^9 \text{ Pa(N/m}^2\text{)}$
Coefficient of Thermal Expansion (20-300°C)	$5.4 \times 10^{-7} \text{ cm/cm}^\circ\text{C}$	$5.4 \times 10^{-7} \text{ cm/cm}^\circ\text{C}$
Thermal Conductivity(20°C)	Low	Low
Specific Heat	640J/kg°C	650J/kg°C
Softening Point	1580°C	1600°C
Annealing Point	1050°C	1100°C