Quartz Rod

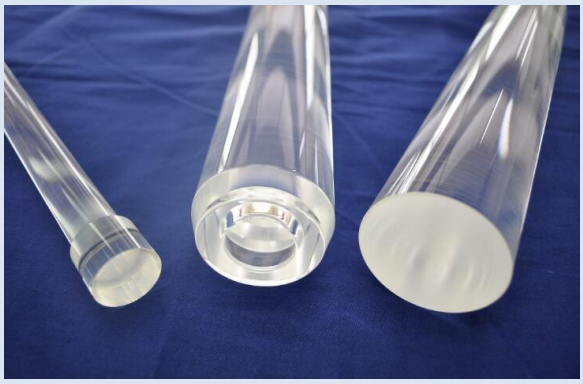
Applications

Semiconduct Optical Fiber Solar

Characteristics

Temperature stability, Heat shock resistance,

Low thermal expansion, Corrosion resistant



Fused quartz rods manufactured by JNM Quartz are available in various material grades and dimensions.

NC-100



NC-100 series single-step quartz rods are directly drawn in a continuous electrical fusion process that covers an outer diameter range from 10 mm – 30 mm . These standard quality direct drawn quartz rods are a cost efficient solution for many industrial applications.

for example:electric heater,semiconductor material,optical fiber parts and so on.

NC-120 adopt high purity quartz sand,the metal concentrations is low,and low bubble content which is suitable high end application.

The oxhydryl content of NC-100 and NC-120 seriers are reduced by the furnace,according the requirement of customer.

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Chemical element composition (Tyical data) ppm

	Al	Fe	K	Li	Cu	Na	B	Ca	Mg	P	Ti	OH
NC-200	20	0.4	1	1.4	0.01	1.5	0.2	0.5	---	---	---	120-260
NC-210	15	0.2	0.6	0.4	0.02	0.8	0.1	0.4	0.05	0.06	1.2	120-260
NC-220	8	0.2	0.2	0.1	0.01	0.4	----	0.6	0.01	----	1.9	120-260
NC-100	25	0.8	1.2	0.8	0.08	2	0.5	0.8	0.25	---	---	150
NC-111	15	0.2	0.6	0.4	0.02	0.8	0.1	0.4	0.05	0.06	1.2	15
NC-120	8	0.2	0.2	0.1	0.01	0.4	---	0.6	0.01	---	1.9	110

Transparent Quartz Rod （NC-100） Dimension and tolerance (mm)

OD	Tolerance of OD	Ovality
2<Φ≤5	±0.15	≤0.15
5<Φ≤6	±0.20	≤0.20
6<Φ≤8	±0.20	≤0.20
8<Φ≤10	±0.20	≤0.20
10<Φ≤12	±0.30	≤0.30
12<Φ≤15	±0.30	≤0.30
15<Φ≤18	±0.30	≤0.30
18<Φ≤20	±0.40	≤0.30
20<Φ≤25	±0.50	≤0.40

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25<Φ≤30	±0.50	≤0.40

NC-200

NC-200 series multi-step fused silica rods yield longer and bigger diameter quartz rod for industrial applications comparing with one step NC-100

Available sizes range from 3 to 200 mm outer diameter.

NC-220

NC-220 is a new selected grade that guarantees particularly low metal concentrations as required for super high purity semiconductor materials.

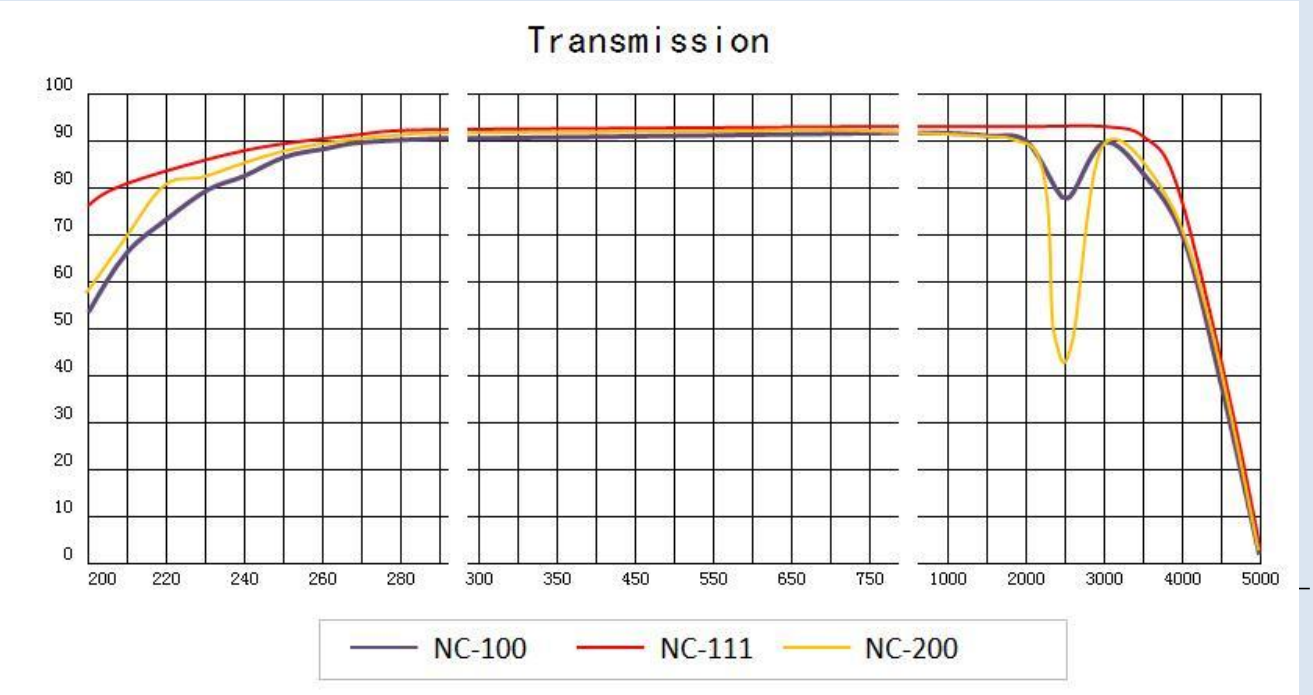
Transparent Quartz Tube （NC-200） Dimension and tolerance (mm)

OD	OD Tolerance Φ	Ovality
3<Φ≤5	±0.20	≤0.20
5<Φ≤6	±0.20	≤0.20
6<Φ≤8	±0.30	≤0.20
8<Φ≤10	±0.30	≤0.20
10<Φ≤12	±0.30	≤0.30
12<Φ≤15	±0.40	≤0.30
15<Φ≤18	±0.40	≤0.30
18<Φ≤20	±0.40	≤0.30
20<Φ≤25	±0.50	≤0.40
25<Φ≤30	±0.60	≤0.40
30<Φ≤35	±0.70	≤0.40
35<Φ≤60	±0.80	≤0.40
60<Φ≤80	±1.0	≤0.50

80<Φ≤100	±1.0	≤0.50
100<Φ≤200	±1.0	≤0.50

Tranparent quartz glass rod property

Property	NC-100	NC-111 NC-120	NC-200	NC-210 NC-220
Density	$2.2\times10^3kg/m^3$	$2.2\times10^3kg/m^3$	$2.21\times10^3kg/m^3$	$2.21\times10^3kg/m^3$
Hardness	$570KHN_{100}$	$580KHN_{100}$	$580KHN_{100}$	$580KHN_{100}$
Tensile Strength	$4.8\times10^7Pa(N/m^2)$	$4.9\times10^7Pa(N/m^2)$	$4.9\times10^7Pa(N/m^2)$	$4.9\times10^7Pa(N/m^2)$
Compression Strength	$>1.1\times10^9Pa$	$>1.1\times10^9Pa$	$>1.1\times10^9Pa$	$>1.1\times10^9Pa$
Cofficient of Thermal Expansion(20-300℃)	$5.5\times10^{-7}cm/cm℃$	$5.5\times10^{-7}cm/cm℃$	$5.5\times10^{-7}cm/cm℃$	$5.5\times10^{-7}cm/cm℃$
Thermal Conductivity(20℃)	1.4W/m℃	1.4W/m℃	1.4W/m℃	1.4W/m℃
Specific Heat	660J/kg℃	670J/kg℃	680J/kg℃	690J/kg℃
Softening Point	1630℃	1680℃	1700℃	1750℃
Annealing Point	1180℃	1215℃	1210℃	1250℃



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