



# Quartz Ceramic



Quartz ceramic is a new type high purity and high temperature quartz material. It keeps the good characteristic of quartz glass and is made through advanced ceramic process. The raw material is fused silica or quartz glass. The production process is made through crushing, forming and sintering. Quartz ceramic features low thermal conductivity, low expansion coefficient, high temperature resistance and good thermal shock resistance. It is cost efficient than other types of quartz glass. It has the unique characteristic that its strength increases greatly with the rise of temperature below 1100 degree. Its strength increases by 33% at a rise of temperature from room temperature to 1100 degree. Owing to its outstanding characteristics, this material has been used in a variety of wide application in Metallurgy, Electrical engineering, Float glass, Glass processing, Aero space, Precision platform, Crucible for polycrystalline silicon melting and containers for torch and kiln jewelry casting.

## Technical data

|  |                         |
|--|-------------------------|
| SiO <sub>2</sub>   | ≥ 99.5                  |
| Max Operation Temperature ( °C )                             | 1650                    |
| Volume Density (g/cm <sup>3</sup> )                          | ≥ 1.78                  |
| Apparent porosity (%)  | ≤15                     |
| Room Temperature Compressive Strength (MPa)                  | ≥ 50                    |
| Room Temperature Flexural Strength (MPa)                     | ≥ 20                    |
| Thermal Conductivity (w/m.k) (RT-1100°C)                     | 0.60 - 1.70             |
| Thermal Expansion Coefficient(°C <sup>-1</sup> ) (RT-1000°C) | ≤ 0.9× 10 <sup>-6</sup> |
| Crystallinity (vol%)   | ≤1                      |



## Surface Quality

|   |        |
|---|--------|
| Flatness: Diamond finishing, convex / concavity                         | ≤ ±2mm |
| Ceramic does not have crack, corner / edge spalling and opening bubbles |        |



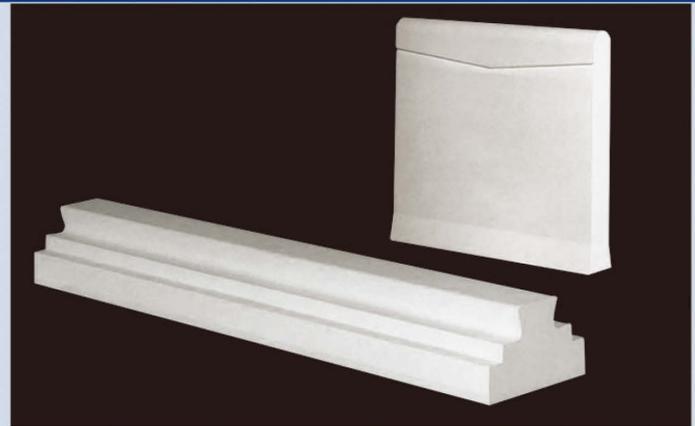


# Quartz Ceramic



## Quartz Ceramic for Float Glass Kilns

Near net shape formed, the large complex shaped products process high density, excellent thermal shock resistance, long service life. can be changed at high temperature without pre-heating, without residual stresses after treatment, little deformation at high temperature.



## Quartz Ceramic Rollers



Quartz Ceramic Lehr Rollers for Float Glass Process.  
Quartz Ceramic Hollow Rollers for Silicon Steel Annealing Furnaces.

|                      |               |                      |
|----------------------|---------------|----------------------|
| Surface Roughness Ra | $\mu\text{m}$ | $\text{Ra} \leq 2.0$ |
| Diameter Tolerance   | mm            | $\pm 0.05$           |
| T.I.R                | mm            | $\leq 0.10$          |



## Quartz Ceramic for Glass Furnaces



Excellent thermal shock resistance, can be changed at high temperature without pre-heating. Excellent corrosion resistance. High strength, long service life.

