

Quartz Crucibles

Arc fused Industrial grades

Arc fused containers have a glazed inner surface and a sand blasted outer surface. Unlike other silica crucibles vitreous silica surface is not porous. The glassy finish is obtained directly from the fusion process and superior to any further flame glazing

Crucibles are available in both **transparent** and **opaque** grades

APPLICATIONS

Arc fused containers are used extensively in industry for

- Powder calcination
- Precious metals refining
- Special alloy melting
- Special Glass melting
- Various applications in Chemical industry
- Laboratory use

PURITY

According to customer's usage we can melt various raw materials. Saint-Gobain Quartz Industrial crucibles can be offered in two grades as a standard:

- Standard Purity with an SiO_2 content of 99.80% minimum
- High Purity with an SiO_2 content of 99.95% minimum

SHAPES

Various shapes are available, additional specific shapes can be studied on request



TECHNICAL DATA

Properties	Description	Unit	Opaque Typical Values	Transparent Typical Values
Physical	Density	g/cm ³	2.1	2.2
	Hardness	Mohs scale	7	7
	Tensile strength	MPa	20	50
	Compressive strength	Mpa	500	1100
	Flexural strength	MPa	35	65
	Torsion strength	MPa	–	30
	Young's modulus	GPa	72	72
	Poisson's coefficient		–	0.16
	Rupture stress : traction	N.m ⁻²	–	2.10 ⁷
	Rupture stress : compression	N.m ⁻²	–	5.10 ⁸
Electrical	Dielectric constant		3.5	3.78
	Loss factor at 1MHz	-	≅10 x 10 ⁻⁴	1 x 10 ⁻⁴
	Resistivity at 20°C	Ω.m	–	1 x 10 ²⁰
	at 800°C	Ω.m	–	6 x 10 ⁸
	at 1 000°C	Ω.m	–	1 x 10 ⁸
Thermal	Linear expansion coefficient	K ⁻¹	0.54 x 10 ⁻⁶	0.54 x 10 ⁻⁶
	Specific heat at 20°C	J.kg ⁻¹ .K ⁻¹	7.5 x 10 ²	7.5 x 10 ²
	Heat conductivity at 20°C	W.m ⁻¹ .K ⁻¹	1.05	1.38
	Annealing point (log ₁₀ h = 13)	°C	1120	1 220
	Softening point (log ₁₀ h = 7.6)	°C	1650	1 700
Optical	Refractive index	–	–	1.4585
	Dispersion	–	–	67
	Field of transparency	µm	–	0.2 to 4



The information given in this data sheet is believed to be accurate and reliable. However it is the users responsibility to determine whether the material is suitable for his particular application, process and/or environment.

This data sheet may be modified without prior notice.

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