

6MS.011 Sintered glassy carbon

Application

- Crucibles Molding
- Cover manufacturing
- Boat manufacturing
- Evaporating dish manufacturing

Physical variables included in this documentation are provided by way of indication only and do not, under any circumstances, constitute a contractual undertaking. Please contact our technical service if you require any additional information.

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Overview

Sintered glassy carbon is an extremely resistant material, perfect for molding crucibles. It resists up to 3,000 °C in inert atmosphere and, unlike the other products, its resistance increases proportionally with the temperature.

Example: sintered glassy carbon is twice resistant at 2,400 °C than at room temperature.

Products don't become fragile at high temperature and resist at repeated cycles of rising temperature and cooling without difficulty.

Sintered glassy carbon crucibles don't present porosity. While using them, they generate a light oxidizing that causes the appearance of a gas on the molten metal. This phenomenon prevents the formation of an oxide layer on the molten metal and guarantees quality.

The flow has a uniform and clear aspect and doesn't wet the surfaces of the crucible. Reduced heating and melting times enable to melt the metal faster and more homogeneous.

Those crucibles are adapted to palladium alloys, noble metals, precious metals, and titanium melting. However, they don't have to be used for steel or ferrous metals alloy melting.

Sintered glassy carbon crucibles have a longer lifetime than conventional ceramic and graphite crucibles. They are compatible with an induction heating.

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Technical data

Properties	Unit	K Grade	G Grade
Density	g/cm ³	1,54	1,42
Open porosities	%	0	0
Temperature stability vacuum or in inert atmosphere	°C	1 000	3 000
Temperature stability in oxidizing atmosphere	°C	450	450
Electric resistance	Ω.m	50.10 ⁻²	45.10 ⁻²
Young modulus	GPa	35	35
Bending resistance (4 points)	MPa	210	260
Compression resistance	MPa	580	480
Vickers hardness	HV	340	230
Linear dilatation (20/200 °C)	10 ⁻⁶ .K ⁻¹	3,5	2,6
Thermal conductivity	Wm ⁻¹ .K ⁻¹	4,6	6,3

Dimensions

Type	Dimension	Type	Dimension
Rod	Ø 1 to 10 mm	Tube	On request
Board	thk. 0,5 to 6 mm	Powder	-
Film	thk. 60 to 180 µm	Crucible	Tubular, cylindrical, conical

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