

Tokai Carbon – Specialty Carbon Product

Glassy Carbon



Glassy Carbon is a type of highly impermeable carbon with the appearance of glass and having unique properties not found in carbon and graphite materials. It has an amorphous structure, does not generate particles and is impervious to gases and liquids.

Tokai Carbon Group was the first carbon company to develop such a material using some innovative methods and materials.

Features:	Applications:
Low Apparent Density	Wafer Holders and Heat Reflectors
Excellent Electrical and Thermal Conductivity	Gas Diffusers Electrodes for Plasma Etching
No Particle Generation or Outgassing	Crucibles and Dummy Wafers
High Thermal Shock Resistance	Thermocouple Protection Tubes
High Mechanical Strength	Glass Mould Materials
Completely Impervious to Gases and Liquids	Susceptors and Guide Rings
High Resistance to Aggressive Chemicals	Cleaning Process Materials

Typical Properties of Glassy Carbon

Density (g/cm ³)	Specific Resistance (μΩm)	Flexural Strength (MPa)	Hardness (Shore)	Thermal Conductivity (W/mK)	Ash Content (ppm)
1.51	42	147	120	5.8	<2

	Isotropic Graphite	Glassy Carbon	Quartz
Thermal Resistance	Excellent		Good
Electrical Conductivity	High		No
Thermal Expansion	More Than Quartz		Low
Thermal Conductivity	High	Low	
Particle Generation	Yes	No	
Gas Permeability	Yes	No	