

Datasheet Glassy Carbon SIGRADUR®

Technical Data	SIGRADUR K®	SIGRADUR G®
Maximum service temperature (vacuum or inert gas)	1000°C	3000°C
Density	1.54g/cm ³	1.42g/cm ³
Open porosity	0%	0%
Permeability coefficient	10 ⁻¹¹ cm ² /s	10 ⁻⁹ cm ² /s
Vickers hardness	340 HV ₁	230 HV ₁
Flexural strength (4 point)	210 N/mm ²	260 N/mm ²
Young's modulus	35 kN/mm ²	35 kN/mm ²
Compressive strength	580 N/mm ²	480 N/mm ²
Specific electrical resistance (RT)	50 Ωμm	45 Ωμm
Thermal conductivity (RT)	4.6 J/(Kms)	6.3 J/(Kms)
Median linear coefficient of expansion (20-200°C)	3.5 · 10 ⁻⁶ 1/K	2.6 · 10 ⁻⁶ 1/K

Characteristic Properties

Glassy carbon SIGRADUR® is characterized by the following properties:

- High temperature resistance in inert gas or vacuum up to 3000°C
- High purity
- Extreme corrosion resistance
- Impermeability to gas and liquids, no open porosity
- No wetting by melts
- High hardness and strength
- Low density
- High surface quality, no particle generation
- Low thermal expansion
- Extreme resistance to thermal shock
- Isotropy of physical and chemical properties
- Good electrical conductivity
- Biocompatibility