

MATERIALS SUBSTRATES

- Glassy Carbon Substrates.....J 49

Glassy Carbon Substrates

Glassy carbon, also called vitreous carbon, is an advanced material of pure carbon combining glassy and ceramic properties with these of graphite's one. Unlike graphite,

glassy carbon has a fullerene-related microstructure. This leads to a great variety of unique material properties.

SPECIAL 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

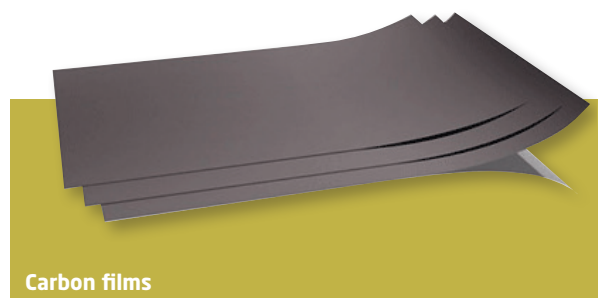
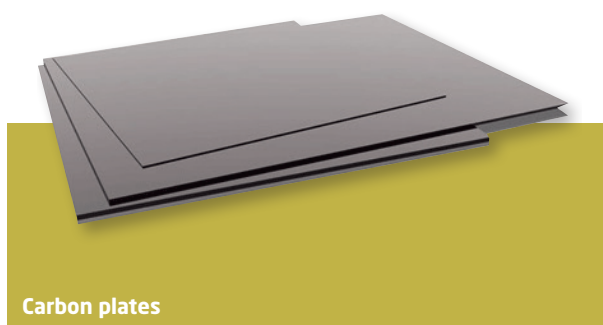
STANDARD SPECIFICATIONS

	PLATES	PLATES / FILMS
Maximum service temperature (vacuum or inert gas)	3000°C	1000°C
Density	1.42 g.cm ⁻³	1.54 g.cm ⁻³
Open porosity	0%	0%
Permeability coefficient	10 ⁻⁹ cm ² .s ⁻¹	10 ⁻¹¹ cm ² .s ⁻¹
Vickers hardness	230 HV1	340 HV1
Flexural strength (4 point)	260 N.mm ⁻²	210 N.mm ⁻²
Young's modulus	35 kN.mm ⁻²	35 kN.mm ⁻²
Compressive strength	480 N.mm ⁻²	580 N.mm ⁻²
Specific electrical resistance (RT)	45 Ω.μm	50 Ω.μm
Thermal conductivity (RT)	6.3 J.K ⁻¹ .m ⁻¹ .s ⁻¹	4.6 J.K ⁻¹ .m ⁻¹ .s ⁻¹
Median linear coefficient of expansion (20-200°C)	2.6.10 ⁻⁶ K ⁻¹	3.5.10 ⁻⁶ K ⁻¹

AVAILABLE DIMENSIONS

	THICKNESS	DIMENSIONS
PLATES	0.3 mm 0.5 mm	25 x 25 mm 50 x 50 mm 100 x 100 mm
	1 to 6 mm	25 x 25 mm 50 x 50 mm 100 x 100 mm 200 x 200 mm
FILMS	60 µm 100 µm 140 µm 180 µm	25 x 25 mm 50 x 50 mm 100 x 100 mm

Other dimensions and custom made parts are available on request.





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