

AXF-5Q Graphite

For internal medical applications

Entegris graphite materials have been a mainstay in the implantable medical device market for over 40 years. The unique carbon blended material combines the quality of our high-strength premium graphite with the added benefits of being biocompatible, safe, and effective.

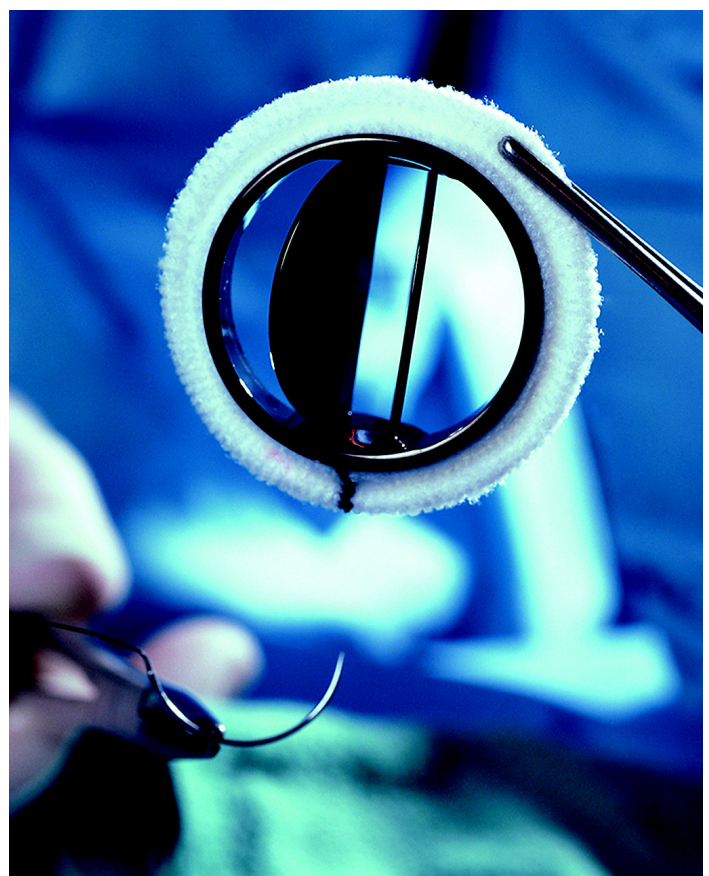
This life sciences grade, specially blended AXF-5Q graphite is precision machinable and compatible with the human body. It is ideal for pyrocarbon-coated substances used by replacement joint and mechanical heart valve manufacturers around the world.

APPLICATIONS

- Mechanical heart valves
- Orthopedic prosthetics
- Cancer treatments

FEATURES & BENEFITS

Uniquely blended carbon and premium graphite material	Provides high strength and compatibility with human tissues and bodily fluids
Consistent particle size and microstructure	Easily machined into precision parts
Material meets stringent requirements for U.S. FDA Class II and III applications	Allows use in biomedical implant applications



High-strength premium graphite is ideal for use in biomedical applications

SPECIFICATIONS

Particle size	5 μm (200 μin)
Pore size	0.8 μm (32 μin)
Total porosity	20% volume
Open porosity	80% of total
Apparent density	1.78 g/cm^3 (0.064 lb/in^3)
Compressive strength	138 MPa (20,000 psi)
Flexural strength ¹	86 MPa (12,500 psi)
Tensile strength ²	62 MPa (9,000 psi)
Shore hardness	74
Electrical resistivity	1470 $\mu\Omega\text{-cm}$ (580 $\mu\Omega\text{-in}$)
Thermal conductivity	95 $\text{W}/\text{m-K}$ (55 $\text{Btu-ft}/\text{hr}/\text{ft}^2 \text{ }^\circ\text{F}$)
Oxidation threshold ³	450 $^\circ\text{C}$ (840 $^\circ\text{F}$)

¹Measured using 4-point bend method.

²Estimated at 70% of flexural strength.

³Temperature that results in 1% wt. loss in 24 hrs. Oxidation threshold increases by approximately 100 $^\circ\text{C}$ if graphite is purified. Test sample size equals 0.5" x 0.5" x 1.0".

ORDERING INFORMATION

PART NUMBER	MATERIAL TYPE
DE-18338	Sample
DE-43176	Copper Impreganted Sample
DE-43179	Nickel Impreganted Sample

FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit entegris.com and select the [Contact Us](#) link to find the customer service center nearest you.

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