

Pyrolytic Sealed Bipolar Plates

For the fuel cell and energy storage industry

OVERVIEW

Improved efficiency of the fuel cell stack starts with the individual plate. Entegris' POCO Materials are high-strength, fine-grained, isotropic graphites with consistent microstructure. These graphites are highly conductive materials. High conductivity and consistency of the microstructure provide efficient passage of gases across the entire surface of the plate.

GRAPHITE MATERIALS

We produce a variety of graphite materials that can be used for bipolar plates. The most popular plate material is a pyrolytically sealed graphite (PYC) that is non-porous and does not allow leaking of the cell stack. PYC plates are produced by subjecting machined plates to a proprietary carbon treatment that completely seals the surface. For maximum output, start with the material that offers maximum efficiency.

PRECISION MACHINING SERVICES

The high strength and small, uniform microstructure of our graphite makes it possible to machine intricate patterns/channels into the plate to meet the fuel cell design requirements for flow field efficiency up to 0.0005".



PYC typical material properties

Apparent density	1.78 g/c
Flexural strength	13,000 psi (90 MPa)
Compressive strength	22,000 psi (152 MPa)
Electrical resistivity	580 $\mu\Omega\cdot\text{in}$ (1470 $\mu\Omega\cdot\text{cm}$)
Coefficient of thermal expansion	4.4 $\mu\text{in/in}^\circ\text{F}$ (7.9 $\mu\text{m/m}^\circ\text{C}$)
Shore hardness	74
Purity	99.99995%

FOR MORE INFORMATION

Please call our Customer Service Center today to learn what our premium graphite and silicon carbide solutions can do for you. Visit poco.entegris.com/contact-us for the location nearest you.

TERMS AND CONDITIONS OF SALE

All purchases are subject to Poco Graphite's Terms and Conditions of Sale. To view and print this information, visit poco.entegris.com/terms-and-conditions.



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