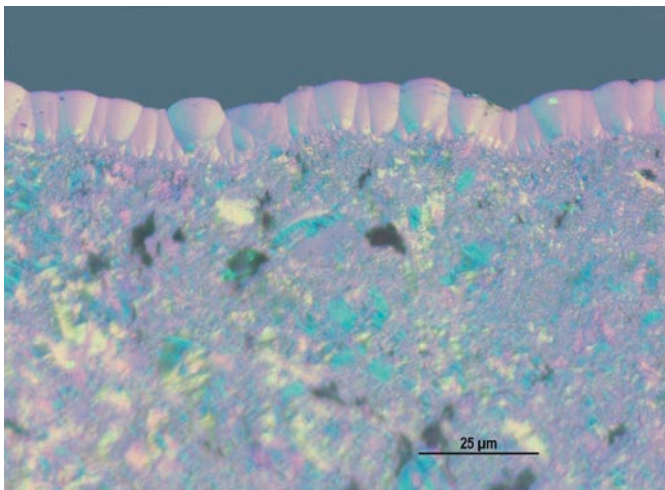


R&D Materials – preliminary data sheet

Pyrolytic carbon coated graphite

Carbon coatings for advanced applications



↑ Cross section view: Pyrolytic carbon coating on isostatic graphite

A pyrolytic carbon coating on graphite provides

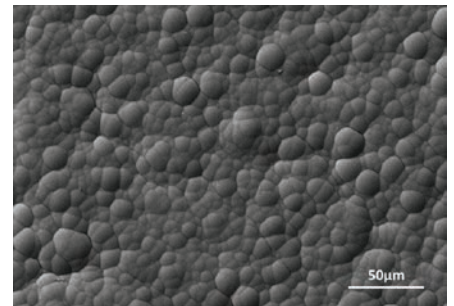
- reduced gas permeability
- increased oxidation stability
- protection against particle release

Pyrolytic carbon coatings have high temperature stability and chemical inertness, similar to the graphite base material.

In addition, pyrolytic carbon can be used to infiltrate and densify graphite which significantly lowers the internal porosity.

Typical material data of isostatic graphite base material with and without pyrolytic carbon coating

Properties	Units	Isostatic graphite without coating	Isostatic graphite with pyrolytic carbon coating
Electrical resistivity	$\mu\text{m} \cdot \Omega$	14	14
Apparent density	g/cm^3	1.85	1.85
Young's modulus	GPa	14	14
Flexural strength	MPa	58	52
Gas permeability	$10^{-6}\text{cm}^2/\text{s}$	34000	5



↑ Top view on graphite with pyrolytic carbon coating

