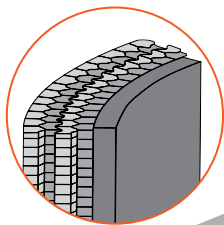


SYNTHETIC DIAMOND AND TUNGSTEN CARBIDE FOR FUSION ENERGY

Element Six has been supplying advanced materials for fusion innovation for nearly 30 years. Capable of withstanding extreme conditions of heat and neutron irradiation, synthetic diamond and tungsten carbide are ideal engineering materials for fusion energy.

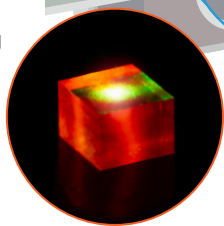
TUNGSTEN CARBIDE FOR NEUTRON SHIELDING

Fusion reactor materials must be capable of withstanding extreme conditions. Element Six's cemented tungsten carbide has been specifically designed for fusion applications, providing effective shielding with reduced activation in high neutron flux environments.



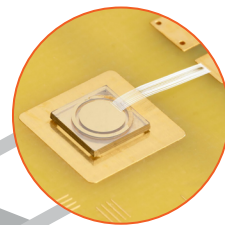
MAGNETIC FIELD DIAGNOSTICS

Magnetic field diagnostics are critical for tokamaks and other fusion devices utilising magnetic fields. Magnetic sensors require materials which will not overheat from the fusion plasma radiation, and will survive exposure to neutrons, making diamond magnetometers an ideal candidate.



DIAMOND FAST NEUTRON DETECTORS

For fusion plasma diagnostics, diamond is an ideal sensor material. Its radiation hardness, fast response, and high gamma ray and temperature insensitivities, allow diamond detectors to directly identify fast neutrons and distinguish them from the background.



LARGE DIAMOND WINDOWS FOR RF HEATING

Megawatt power microwave beams are required to heat large fusion plasmas. Element Six's synthetic diamond windows have low dielectric loss and outstanding thermal conductivity making them the ideal material for high power radio frequency (RF) gyrotron and torus windows.

