Overview

Carbon materials touch every aspect of our daily life in some way. Activated carbons are used for water and air purification, carbon black is used to reinforce tires, carbon fiber composites are used to manufacture ultra-light graphite sporting goods and aircraft brakes, carbon foams are used to make fire retardant insulation, and petroleum coke is used to manufacture graphite electrodes for recycling iron and steel.

The use of carbon materials for a multitude of applications derives from the materials’ unique diversity of structures and properties that extend from chemical bonding between carbon atoms to nanostructures, crystallite alignment, and microstructures.