

# SILICON CARBIDE

SiC

## **Characteristics:**

Silicon carbide forms extremely hard, dark iridescent crystals that are insoluble in water and other common solvents. It is used as an abrasive, it is marketed under such trade names as Carborundum and Crystolon. It is heat resistant, decomposing when heated to about 2700° C; it is used in refractory materials such as rods, tubes, firebrick, and in special parts for nuclear reactors. Very pure silicon carbide is white or colorless; crystals of it are used in semiconductors for high-temperature applications. Silicon carbide fibers, added as reinforcement to plastics or light metals, impart increased strength and stiffness. Silicon carbide is prepared commercially by fusing sand and coke in an electric furnace at temperatures above 2200° C; a flux, e.g., sodium chloride, may be added to eliminate impurities. Silicon carbide was discovered (1891) by E. G. Acheson; early studies of it were made by Henri Moissan.