

THE CHEMICAL BROTHERS GROUP

Specifications: Semiconductor-Grade Silicon

Formula: Si

CAS: 7440-21-3

Date of Mfg.: 3rd April 2024

Specification	Details
Purity	99.9999% (6N) to 99.9999999% (9N)
Crystal Structure	Single-crystal (Czochralski (CZ) or float-zone (FZ) methods)
Crystal Orientation	(100), (110), or (111)
Dopants	Boron (p-type) or Phosphorus/Arsenic (n-type)
Dopant Concentration	10^{13} to 10^{16} atoms/cm ³
Resistivity	0.001 to 1000 ohm-cm
Oxygen Content	5×10^{17} to 1×10^{18} atoms/cm ³ (for CZ silicon)
Carbon Content	$< 1 \times 10^{16}$ atoms/cm ³
Crystal Defects	Minimal dislocations, vacancies, and interstitials
Surface Finish	Polished with nanometer-range surface roughness
Thickness	525 to 775 μ m for 200 mm wafers, around 775 μ m for 300 mm wafers
Diameter	100 mm (4 inches), 150 mm (6 inches), 200 mm (8 inches), 300 mm (12 inches)
Flatness and Warp	Tight specifications to ensure proper handling and processing

End of Report*