

CTB010

PHYSICAL AND METALLURGICAL PROPERTIES

PROPERTY	MEASUREMENT	APPLICABLE STANDARD
Mean coefficient of thermal expansion ($10^{-6}/^{\circ}\text{C}$) for temperature range 150°C to 500°C	4.0	ASTM E228-06
Transverse Rupture Strength Characteristic strength (MPa)	1890	ASTM C1239
Weibull Modulus	8.2	
Fracture Toughness Mean ($\text{MPa}\cdot\text{m}^{1/2}$)	8.19 to 9.73	Shetty et al. (1995)
Elastic modulus (GPa)	1000	ASTM E494
Poisson's Ratio	0.1	
Density (g/cm^3)	4.09	Archimedes Principle
Thermal conductivity ($\text{W}/\text{m}/\text{K}$) at 500°C	365.6	Calculated from Thermal Diffusivity, Specific Heat Capacity and Density
Knoop Hardness (Indentation)(GPa)	50	ASTM C1326-03

DIAMOND GRAIN SIZE

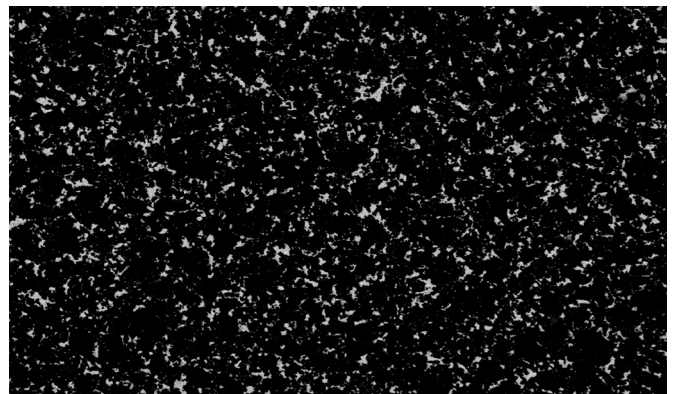
Average $10\mu\text{m}$

COBALT RATIO (wt%)

10 to 13

All property measurements are carried out, where possible, in accordance with relevant international standards. The data quoted is for comparative purposes only and should not be viewed as a product specification. Element Six Limited is constantly striving to improve its products and therefore reserves the right to alter product properties without prior notice.

TYPICAL MICROSTRUCTURE



BEC 10kV x500 Magnification 50 μm



FOR MORE INFORMATION

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