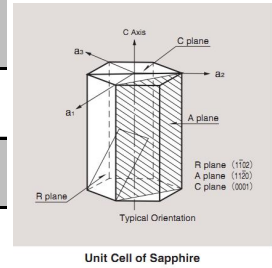


+Properties Of Synthetic Sapphire+

物理特性 Physical Properties

晶体结构 Crystal Structure	六方晶格单晶体 Rhombohedral Hexagonal Single Crystal
化学分子式 Chemical Composition	Al_2O_3
一般纯度 Common Purity	99.99%~99.999%
比重 specific gravity	3.99~3.98



机械特性 Mechanical Properties

莫氏硬度 Mohs ' Hardness	莫氏硬度9, 努普硬度 $\geq 1700\text{kg/mm}^2$ Mohs9, Knoop $\geq 1700\text{kg/mm}^2$
弹性模量 Modulus of Elasticity	$3.5 \times 10^6 \sim 3.9 \times 10^6 \text{ kg/cm}^2$
抗压强度 Compressive Strength	$2.1 \times 10^4 \text{ kg/cm}^2$
抗拉强度 Tensile Strength	$1.9 \times 10^3 \text{ kg/cm}^2$

热力特性 Thermal Properties

熔点 Melting Point	2050°C
软化点 Softening Point	1800°C
比热 Specific Heat	0.18 (at 25°C)
热膨胀系数 Thermal Expansion	$6.7 \times 10^{-6} // \text{C-axis } 5.0 \times 10^{-6} \pm \text{C-axis}$

化学特性 Chemical Properties

耐酸碱性 Acids and Alkalis Attack	不被一般酸和碱腐蚀, 在 300°C 时会被HF 腐蚀 No attacked by acid or alkalis, Attacked by HF at 300°C
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电气特性 Electrical Properties

介电常数 Dielectric Constant	7.5~10
电阻系数 Electrical Resistivity	$10^{11} \Omega/\text{cm}$ at 500°C , $10^6 \Omega/\text{cm}$ at 1000°C , $10^3 \Omega/\text{cm}$ at 2000°C

光学特性 Optical Properties

折射率 Refractive Index	1.769//C-axis, $1.760 \pm \text{C-axis}$ at $0.5893 \mu\text{m}$
可见光 Visible Light	>85% Excellent
红外透过率 Infrared	85% $0.75 \sim 4 \mu\text{m}$, 70% $4.7 \mu\text{m}$, 50% $5.2 \mu\text{m}$
紫外线透过率 Ultraviolet	80% $0.4 \sim 0.3 \mu\text{m}$, 60% $0.28 \mu\text{m}$, 50% $0.2 \mu\text{m}$

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Basic Properties Of Sapphire

Sapphire Window; Sapphire Rods & Tubes; Sapphire Materials

+Specialized In Sapphire Components+