

Goodfellow Ruby, Al₂O₃

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Ruby exhibits identical properties to those of sapphire. Small amounts of impurities, especially chromium oxide, give ruby a red coloration.

Useful optical range from 150 - 5500 nm. Information provided by Goodfellow.

Order this product through the following link:

[http://www.lookpolymers.com/polymer_Goodfellow-Ruby-Al₂O₃.php](http://www.lookpolymers.com/polymer_Goodfellow-Ruby-Al2O3.php)

Physical Properties	Metric	English	Comments
Density	3.98 g/cc	0.144 lb/in ³	
Water Absorption	0.00 %	0.00 %	
Porosity	0.00 %	0.00 %	apparent

Mechanical Properties	Metric	English	Comments
Knoop Microhardness	2000	2000	kg(f)/mm ²
Vickers Microhardness	2500 - 3000	2500 - 3000	kg(f)/mm ²
Tensile Strength at Break	250 - 400 MPa	36300 - 58000 psi	
Tensile Modulus	350 - 390 GPa	50800 - 56600 ksi	
Compressive Strength	2100 MPa	305000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	5.80 µm/m-°C	3.22 µin/in-°F	
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Specific Heat Capacity	0.750 J/g-°C	0.179 BTU/lb-°F	
Thermal Conductivity	35.0 - 40.0 W/m-K	243 - 278 BTU-in/hr-ft ² -°F	
Melting Point	2050 °C	3720 °F	
Maximum Service Temperature, Air	1800 - 1950 °C	3270 - 3540 °F	Continuous

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	
	@Temperature 25.0 °C	@Temperature 77.0 °F	

Dielectric Constant Electrical Properties	7.5 - 11.5 Metric	7.5 - 11.5 English	Comments
Dielectric Strength	15.0 - 50.0 kV/mm	381 - 1270 kV/in	

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