

MarkeTech Silica Aerogel

Category : Ceramic , Aerogel , Oxide , Silicon Oxide

Material Notes:

Silica aerogels are generally known for being an extremely lightweight transparent solid down to

Order this product through the following link:

http://www.lookpolymers.com/polymer_MarkeTech-Silica-Aerogel.php

Physical Properties	Metric	English	Comments
Density	0.100 g/cc	0.00361 lb/in ³	typical
	0.0500 - 0.300 g/cc	0.00181 - 0.0108 lb/in ³	Available range
Particle Size	0.0020 - 0.0050 Åµm	0.0020 - 0.0050 Åµm	Primary Particle Size
Specific Surface Area	800 mÅ²/g	800 mÅ²/g	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	0.0160 MPa	2.32 psi	
Modulus of Elasticity	0.00100 - 0.0100 GPa	0.145 - 1.45 ksi	Youngs Modulus
Compressive Modulus	0.000300 GPa	0.0435 ksi	
Poissons Ratio	0.24	0.24	
Fracture Toughness	0.000800 MPa-mÅ½	0.000728 ksi-inÅ½	
Shear Modulus	0.000420 - 0.00417 GPa	0.0609 - 0.605 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	2.00 Åµm/m-Å°C	1.11 Åµin/in-Å°F	
	@Temperature 20.0 - 80.0 Å°C	@Temperature 68.0 - 176 Å°F	
Thermal Conductivity	0.00400 W/m-K	0.0278 BTU-in/hr-ftÅ²-Å°F	In Vacuum
	0.0160 W/m-K	0.111 BTU-in/hr-ftÅ²-Å°F	In Air
Maximum Service Temperature, Air	500 Å°C	932 Å°F	Thermal Tolerance

Optical Properties	Metric	English	Comments
Refractive Index	1.002 - 1.063	1.002 - 1.063	

Optical Properties	Metric	English	Comments
Transmittance, Visible			Value, thickness not quantified

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1e+15 ohm-cm	1e+15 ohm-cm	
Dielectric Constant	1.14	1.14	
	@Frequency 1.80e+10 - 4.00e+10 Hz	@Frequency 1.80e+10 - 4.00e+10 Hz	

Descriptive Properties	Value	Comments
Color	Transparent	
Mean Pore Diameter	20 nm	
Solids	0.13 - 15%	
Sound Velocity	100 m/sec	

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