

## Meldin® 7001 (Polyimide)

A thermosetting polyimide, Meldin® 7001 is an unfilled base resin. This grade offers the maximum mechanical properties and high chemical resistance. The Meldin® 7001 grade is ideal for electrical and thermal insulating applications.

More ductile than ceramics, and lighter weight than metals, Meldin® 7001 is a popular choice for structural parts in aerospace and other applications where metal replacement is desirable

Property	Test Method	Units	Meldin® 7001
<b>Mechanical</b>			
Tensile Strength	ASTM D638	psi	12,500
Elongation	ASTM D638	%	8.0
Flexural Strength	ASTM D790	psi	15,800
Flexural Modulus	ASTM D790	psi	450,000
Compressive Stress @ 1% Strain	ASTM D695	psi	3,800
Compressive Stress @ 10% Strain	ASTM D695	psi	18,500
Compressive Modulus	ASTM D695	psi	377,000
Coefficient of Thermal Expansion 73°F to 500°F -80°F to 73°F	ASTM E831 ASTM E831	in/in/°F in/in/°F	2.7 x 10 <sup>-5</sup> 2.4 x 10 <sup>-6</sup>
Thermal Conductivity	ASTM F433	BTU-in/hr-ft <sup>2</sup> -°F	2.4
<b>Electrical</b>			
Dielectric Strength, .08"	ASTM D149	V/mil	580
Dielectric Constant 100 Hz 10 KHz 1 MHz	ASTM D150 ASTM D150 ASTM D150		3.18 3.16 3.14
Surface Resistivity	ASTM D257	ohm/square	10 <sup>15</sup> - 10 <sup>16</sup>
<b>Other</b>			
Specific Gravity	ASTM D792		1.43
Hardness, Rockwell E	ASTM D785		40 - 55
Water Absorption, 24 hrs	ASTM D570	%	0.23
Water Absorption, 48 hrs	ASTM D570	%	0.64
Deformation Under Load, 2000 psi	ASTM D621	%	0.1
Limiting Oxygen Index	ASTM D2863		100
<b>Mechanical Properties @ 500 °F</b>			
Tensile Strength	ASTM D638	psi	6,250
Elongation	ASTM D638	%	5.0
Flexural Strength	ASTM D790	psi	7,000
Flexural Modulus	ASTM D790	psi	2,500,000
<b>Specification Qualification</b>			
ASTM D-6456-99		Satisfies	Type I P
SAE AMS 3644E		Satisfies	Class 1 Form P
MIL-R-46198		Satisfies	Type I P

Values in this table are for compression-molded material.

*NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.*