COOLPOLY® D5522

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CoolPoly® D5522 offers thermal conductivity, excellent mechanical strength, surface appearance, low warpage, and excellent dimensional stability. Application for this grade is for a part with thin wall design in automotive and electronics. The D series is electrically non-conductive and can be used for its dielectric properties.

Product information

Resin Identification	LCP-MD30		ISO 1043
Part Marking Code	>LCP-MD30<		ISO 11469

Rheological properties

Molding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2.03E6	psi	ISO 527-1/-2
Tensile stress at break, 50mm/min	20700	psi	ISO 527-1/-2
Tensile strain at break, 50mm/min	2.7	%	ISO 527-1/-2
Flexural modulus	1.89E6	psi	ISO 178
Flexural strength	23200	psi	ISO 178
Charpy impact strength, 23°C	13.8	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	4.76	ftlb/in²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	626	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	464	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.04	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.333	E-4/°F	ISO 11359-1/-2
Thermal conductivity, flow	2.5	W/(m K)	ISO 22007-2
Thermal conductivity, crossflow	1	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	0.6	W/(m K)	ISO 22007-2
Specific heat capacity of melt	1380	J/(kg K)	ISO 22007-4

Flammability

Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.0157	in	IEC 60695-11-10
UL recognition	yes		UL 94

Electrical properties

Relative permittivity, 1MHz	3.63		IEC 62631-2-1
Dissipation factor, 1MHz	280	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	762	kV/in	IEC 60243-1

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Physical/Other properties

Humidity absorption, 2mm	0.03	%	Sim. to ISO 62
Density	0.0592	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	302	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	662	°F
Min. melt temperature	653	°F
Max. melt temperature	671	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	284	°F
Min. mold temperature	212	°F
Max. mold temperature	338	°F

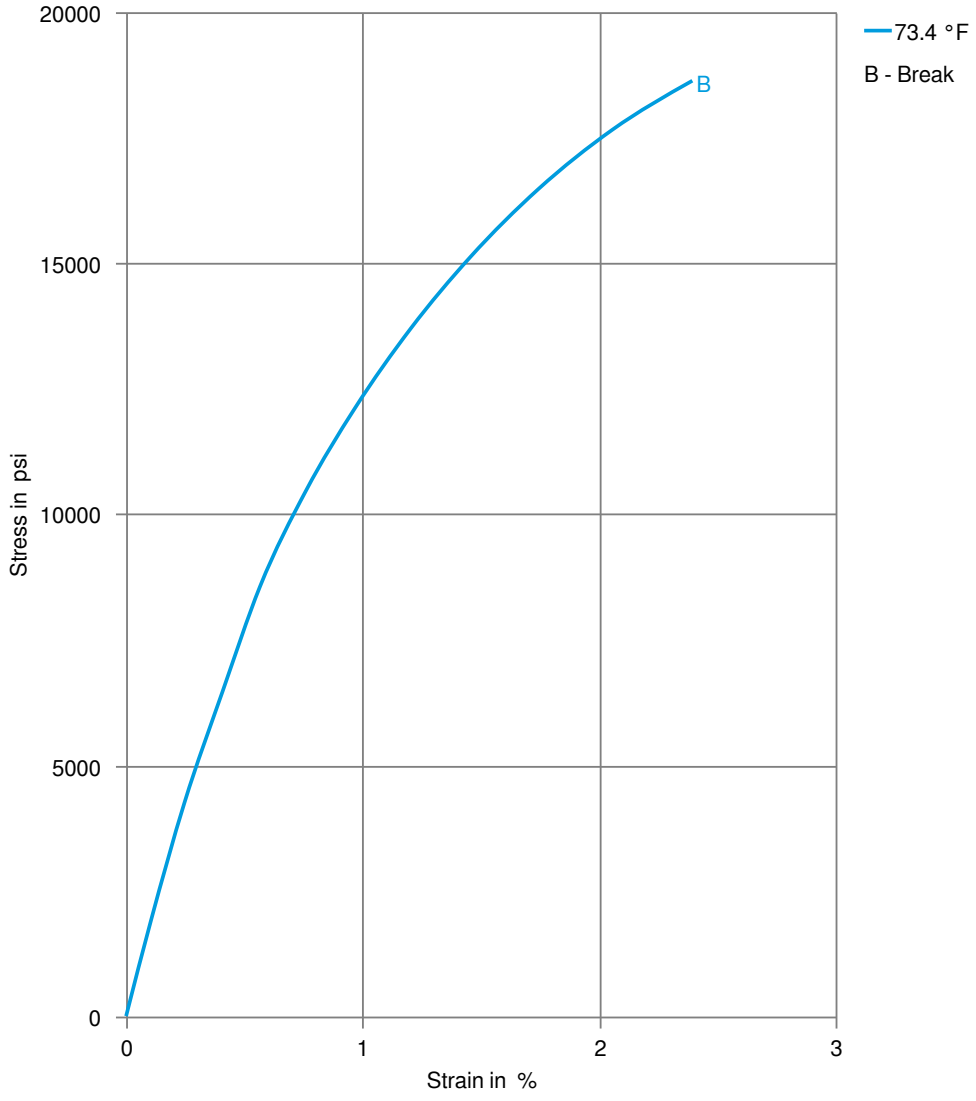
Characteristics

Processing	Injection Molding
Special characteristics	Flame retardant, Specialty appearance, High Flow, Low Warpage, Lead-free soldering resistant, Light weight

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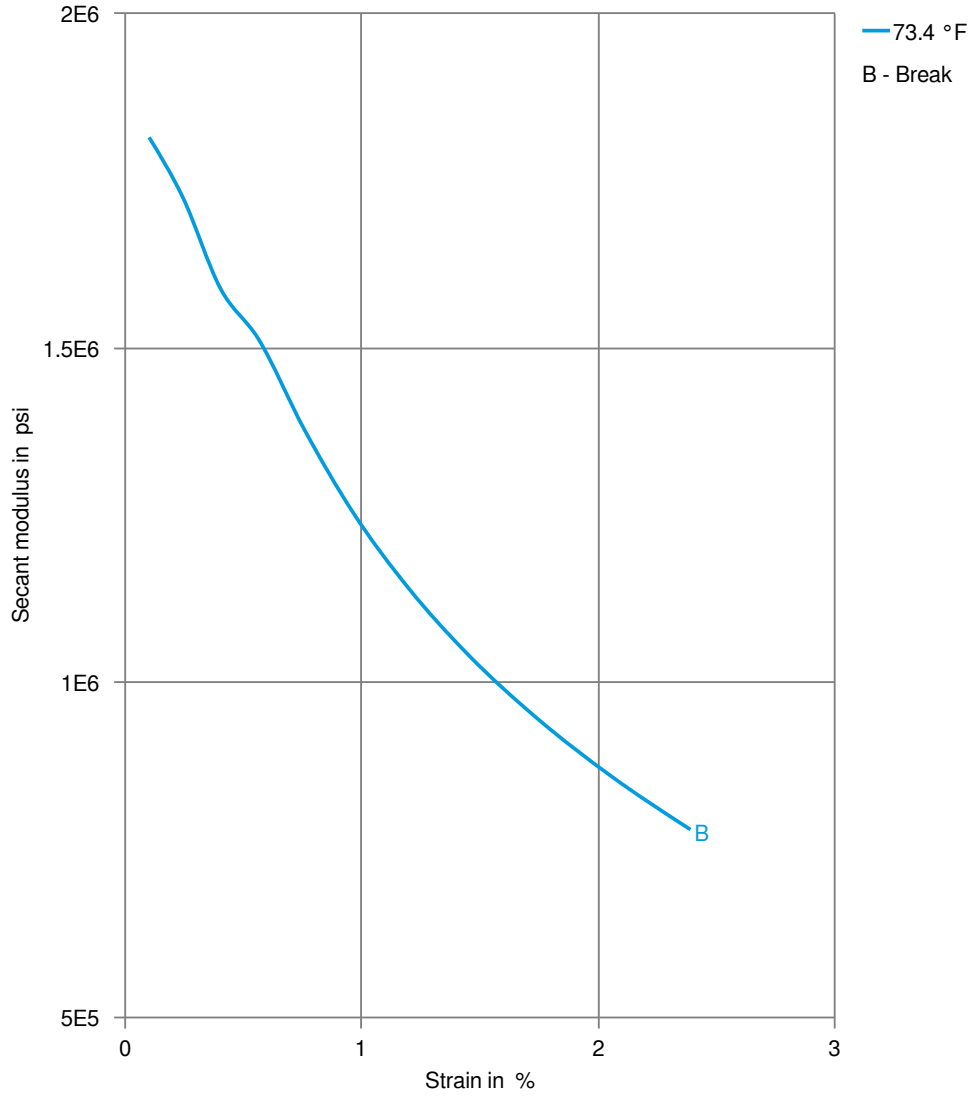
Stress-strain



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Secant modulus-strain



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