COOLPOLY® D5110

COOLPOLY®

CoolPoly D series of thermally conductive plastics transfers heat, a characteristic previously unavailable in injection molding grade polymers. CoolPoly is lightweight, netshape moldable and allows design freedom in applications previously restricted to metals. The D series is electrically non-conductive and can be used for its dielectric properties.

Product information

Resin Identification	PPS		ISO 1043
Part Marking Code	>PPS<		ISO 11469

Typical mechanical properties

Tensile modulus	2E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	15100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.2	%	ISO 527-1/-2
Flexural modulus	1.89E6	psi	ISO 178
Flexural strength	24800	psi	ISO 178
Charpy impact strength, 23°C	9.37	ftlb/in²	ISO 179/1eU

Thermal properties

Temperature of deflection under load, 1.8 MPa	500	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	536	°F	ISO 75-1/-2
Thermal conductivity, flow	1.5	W/(m K)	ISO 22007-2
Thermal conductivity, crossflow	1.3	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	0.7	W/(m K)	ISO 22007-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	0.0591	in	IEC 60695-11-10

Electrical properties

Relative permittivity, 1MHz	3.6		IEC 62631-2-1
Dissipation factor, 1MHz	10	E-4	IEC 62631-2-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2

Physical/Other properties

Density	0.0588	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	266	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	626	°F
Min. melt temperature	590	°F
Max. melt temperature	644	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	320	°F
Min. mold temperature	284	°F

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Max. mold temperature	347 °F
Back pressure	102 psi

Characteristics

Processing	Injection Molding
Special characteristics	Flame retardant, Light weight

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