

performanceplastics

Typical Properties of CoolPoly® Di-Electric Grades

Properties	Test Method	Units	D2 (LCP)	D1202 (PP)	D3604 (PA46)	D3606 (PA46)	D4302 (PBT)	D5108 (PPS)	D5110 (PPS)	D5112 (PPS)	D5502 (LCP)	D5506 (LCP)	D8102 (TPE)
Thermal													
Thermal Conductivity	ASTM E1461	W/mK	10.0	5.0	2.4	1.5	2.6	10.0	2.41	6.5	1.5	10.0	3.0
Thermal Diffusivity	ASTM E1461	0.05	0.05	0.027	0.0128	0.0055	0.014	0.05	0.014	0.04	0.0084	0.05	0.018
Heat Capacity		sq cm/sec											
Heat Capacity	ASTM E1461	J/g Deg C	0.97	1.3	1.3	1.5	1.31	0.9	1.05	0.9	1.0	0.97	1.3
Temperature of deflection													
@0.45 MPa	ISO 75-1/-2	Deg C	273					260	279		260	>300	
@1.8 MPa	ISO 75-1/-2	Deg C	258					270	262		270	264	
Flamability at 1 mm	UL 94		V0					V0	V0	V0			
Mechanical													
Tensile Modulus	ISO 527-1	MPa	10,700	5,200	12,700	12,000	6,000	12,000	14,800	12,500	25,000	10,700	25
Tensile Strength	ISO 527-1	MPa	55	25	73	90	42	36	86	42	69	55	2.2
Nominal strain at break	ISO 527-1	%	0.76	0.69	1.3	1	1.4	0.15	0.73	0.25	0.6	0.76	143
Flexural Modulus	ISO 178	MPa	12,700	6,000		11,000	3,400	19,000	14,300	15,000	13,000	12,700	
Flexural Strength	ISO 178	MPa	84	43		150	61	68	151	77	130	84	
Impact strength													
Charpy notched	ISO 179-1	kJ/sq m	2.8	1.5		4.5	2.8	1.0	3.6	1.3	2.9	2.8	
Charpy Unnotched	ISO 179-01	kJ/sq m	5.6	6.2		20	24	3.0	14	3.9	3.7	5.6	
Electrical													
Volume resistivity	ASTM D257	Ohm-cm	1.6E16					1.7E16			10E13	1.6E16	2E16
Surface resistivity	ASTM D257	Ohm/square	2.0E14					8.9E15			10E11	2.0E14	1E14
Physical													
Density	ISO1183	g/cc	1.8	1.38	1.43	1.65	1.47	1.8	1.65	1.75	1.7	1.8	1.3
Mould Shrinkage	ASTM D551	mm/mm	0.001-0.003	0.003-0.004	0.008-0.011	0.004-0.007	0.007-0.010	0.002-0.004	0.007-0.010	0.002-0.004	0.004-0.007	0.001-0.003	0.002-0.020
Water absorption	ISO 62	%		0.3	1.5	1.2		0.1		0.1	<0.1		

Note: These values are typical data for this product under specific test conditions and not intended for use as limiting specifications

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