

TECACOMP® LCP LDS black 4107

Liquid Crystal Polymer

Ensinger GmbH

Message:

Main features

developed for the LPKF-LDS® process

low thermal expansion

Target Industries

automotive industry

electrical engineering

LED lighting technology

mechanical engineering

General Information			
Features	Low CLTE		
Uses	Laser Direct Structuring		
	LEDs		
	Lighting Applications		
	Application in Automobile Field		
Appearance	Black		
Forms	Particles		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.73	g/cm ³	
Molding Shrinkage			ISO 294-4
Transverse flow	0.30	%	ISO 294-4
Flow	0.10	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	< 0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	11500	MPa	ISO 527-2/50
Tensile Stress	95.0	MPa	ISO 527-2/50
Tensile Strain (Break)	1.3	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength	10	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	274	°C	ISO 75-2/A
Melting Temperature	320	°C	DIN 53765
Linear thermal expansion coefficient			ISO 11359-2
Flow: 50 to 100°C	1.6E-5	cm/cm/°C	ISO 11359-2
Flow: 100 to 150°C	2.5E-5	cm/cm/°C	ISO 11359-2

Flow: 150 to 200°C	3.0E-5	cm/cm/°C	ISO 11359-2
Flow: 200 to 250°C	3.4E-5	cm/cm/°C	ISO 11359-2
Horizontal: 50 to 100°C	3.2E-5	cm/cm/°C	ISO 11359-2
Horizontal: 100 to 150°C	4.0E-5	cm/cm/°C	ISO 11359-2
Horizontal: 150 to 200°C	4.9E-5	cm/cm/°C	ISO 11359-2
Horizontal: 200 to 250°C	6.0E-5	cm/cm/°C	ISO 11359-2
Specific Heat	1250	J/kg/°C	DIN EN 821
Thermal Conductivity			DIN EN 821
-- 1	0.76	W/m/K	DIN EN 821
-- 2	1.6	W/m/K	DIN EN 821
Service Temperature			
long term	200	°C	
short term	260	°C	
Thermal Diffusivity			DIN EN 821
In-plane	0.930	cSt	DIN EN 821
Through-plane	0.310	cSt	DIN EN 821
Adhesion Strength - metal path	9.10	MPa	
Lazer Marking			
Forward movement	1.6 - 3.2	m/sec	
Frequency	100 - 200	kHz	
Power	2.00 - 5.00	Watts	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	4.1E+12	ohms	DIN EN 61340
Volume Resistivity	3.8E+13	ohms·cm	DIN EN 61340
Dielectric Constant (1 kHz)	4.01		DIN 53483
Dissipation Factor (1 kHz)	0.016		DIN 53483
Comparative Tracking Index	275	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flammability Classification	V-0		IEC 60695-11-10, -20
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	2.0 - 3.0	hr	
Processing (Melt) Temp	320 - 340	°C	
Mold Temperature	160	°C	
NOTE			
1.	Through-plane		
2.	In-plane		

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