

Plenco 03509 (Injection)

Phenolic

Plastics Engineering Co.

Message:

PLENCO 03509 is a mineral and flock filled phenolic molding compound offering excellent electrical properties, dimensional stability, and improved heat resistance. UL recognized under component file E40654. 03509 is available in black or brown.

General Information			
UL YellowCard	E40654-231597		
Filler / Reinforcement	Mineral filler		
	Soft filling		
Features	Good dimensional stability		
	Good electrical performance		
	Heat resistance, high		
UL File Number	E40654		
Appearance	Brown		
	Black		
Forms	Particles		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.57	g/cm ³	ASTM D792
Apparent Density	0.67	g/cm ³	ASTM D1895
Molding Shrinkage - Flow	0.64	%	ASTM D955
Water Absorption (24 hr)	0.20	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (E-Scale)	81		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	8600	MPa	ASTM D638
Tensile Strength	53.0	MPa	ASTM D638
Tensile Elongation (Break)	1.0	%	ASTM D638
Flexural Modulus	8420	MPa	ASTM D790
Flexural Strength	83.9	MPa	ASTM D790
Compressive Strength	182	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	19.4	J/m	ASTM D256
Notched Izod Impact	17	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method

Deflection Temperature Under Load (1.8 MPa, Unannealed)	182	°C	ASTM D648
Continuous Use Temperature	197	°C	ASTM D794
CLTE - Flow	4.9E-5	cm/cm/°C	ASTM E831
Thermal Conductivity (100°C)	0.45	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	3.6E+11	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
-- ¹	13	kV/mm	ASTM D149
-- ²	8.4	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	5.30		ASTM D150
Dissipation Factor (1 MHz)	0.053		ASTM D150
Arc Resistance	169	sec	ASTM D495
Comparative Tracking Index (CTI)	175	V	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.00 mm)	V-0		UL 94
Oxygen Index	36	%	ASTM D2863
Additional Information			
The value listed as Thermal Conductivity, ASTM C177 was tested according to the ASTM E1461 standard.The value listed as Mold Shrink, Linear-Flow, ASTM D955 was tested according to the ASTM D6289 standard.The value listed as Comparative Tracking Index, UL 746 was tested according to ASTM D3638.Post Shrinkage, ASTM D6289, 72hr, 120°C: 0.25%Heat Resistance, ASTM D794: 197°C Drop Ball Impact, PLENCO Method: 117 J/m			
Injection	Nominal Value	Unit	
Suggested Shot Size	20 - 80	%	
Rear Temperature	66.0 - 82.0	°C	
Front Temperature	82.0 - 99.0	°C	
Processing (Melt) Temp	104 - 115	°C	
Mold Temperature	165 - 182	°C	
Injection Pressure	6.20 - 11.0	MPa	
Back Pressure	0.300	MPa	
Screw Speed	< 60	rpm	
Cushion	3.00	mm	
Injection instructions			
Injection Time: 3-8 sec			
NOTE			
1.	Method A (short time)		
2.	Method B (step by step)		

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