

Plenco 03509 (Compression)

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	Compression molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.59	g/cm ³	ASTM D792
Apparent Density	0.66	g/cm ³	ASTM D1895
Molding Shrinkage - Flow	0.29	%	ASTM D955
Water Absorption (24 hr)	0.17	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (E-Scale)	84		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	10400	MPa	ASTM D638
Tensile Strength	54.0	MPa	ASTM D638
Tensile Elongation (Break)	0.60	%	ASTM D638
Flexural Modulus	9360	MPa	ASTM D790
Flexural Strength	83.5	MPa	ASTM D790
Compressive Strength	194	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	21.9	J/m	ASTM D256
Notched Izod Impact	20	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method

Deflection Temperature Under Load (1.8 MPa, Unannealed)	193	°C	ASTM D648
Continuous Use Temperature	204	°C	ASTM D794
CLTE - Flow	5.8E-5	cm/cm/°C	ASTM E831
Thermal Conductivity (100°C)	0.47	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	3.2E+12	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
-- ¹	17	kV/mm	ASTM D149
-- ²	14	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	4.80		ASTM D150
Dissipation Factor (1 MHz)	0.028		ASTM D150
Arc Resistance	171	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	38	%	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: 0.10%Heat Resistance, ASTM D794: 204°C Drop Ball Impact, PLENCO Method: 115 J/m			
Injection	Nominal Value	Unit	
Drying Temperature	90.0	°C	
Drying Time	0.50	hr	
Mold Temperature	165 - 182	°C	
Back Pressure	0.300	MPa	
Screw Speed	< 60	rpm	
Injection instructions			
Mold Close Time: 3-8 sec			
NOTE			
1.	Method A (short time)		
2.	Method B (step by step)		

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