

Plenco 04414 (Injection)

Phenolic
Plastics Engineering Co.

Message:

PLENCO 04414 is a flock and mineral filled phenolic molding compound. It is formulated for use in electrical applications that require improved heat resistance, mechanical strength, and dimensional stability. UL recognized under component file E40654. 04414 is available in black.

General Information			
UL YellowCard	E40654-231609		
Filler / Reinforcement	Mineral filler		
	Soft filling		
Features	Good dimensional stability		
	Good strength		
	Heat resistance, high		
UL File Number	E40654		
Appearance	Black		
Forms	Particles		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.54	g/cm ³	ASTM D792
Apparent Density	0.62	g/cm ³	ASTM D1895
Molding Shrinkage - Flow	0.68	%	ASTM D955
Water Absorption (24 hr)	0.26	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (E-Scale)	79		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	10100	MPa	ASTM D638
Tensile Strength	53.0	MPa	ASTM D638
Tensile Elongation (Break)	0.80	%	ASTM D638
Flexural Modulus	8030	MPa	ASTM D790
Flexural Strength	82.4	MPa	ASTM D790
Compressive Strength	177	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	20.3	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)	168	°C	ASTM D648
Continuous Use Temperature	200	°C	ASTM D794

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	8.4E+11	ohms·cm	ASTM D257
Dielectric Strength ¹	13	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	5.30		ASTM D150
Dissipation Factor (1 MHz)	0.051		ASTM D150
Arc Resistance	151	sec	ASTM D495
Comparative Tracking Index (CTI)	175	V	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-1		UL 94

Additional Information

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: 0.24% Drop Ball Impact, PLENCO Method: 118 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

- Method A (short time)

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