

Plenco 04311 (Compression)

Phenolic

Plastics Engineering Co.

Message:

PLENCO 04311 is a heat resistant, mineral filled phenolic molding compound offering excellent processability, mechanical strength, and improved cold powder pourability characteristics. UL recognized under component file E40654. 04311 is available in black.

General Information			
UL YellowCard	E40654-231607		
Filler / Reinforcement	Mineral filler		
Features	Workability, good		
	Good strength		
	Heat resistance, high		
UL File Number	E40654		
Appearance	Black		
Forms	Particles		
Processing Method	Compression molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.48	g/cm ³	ASTM D792
Apparent Density	0.68	g/cm ³	ASTM D1895
Molding Shrinkage - Flow	0.33	%	ASTM D955
Water Absorption (24 hr)	0.29	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (E-Scale)	83		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	8790	MPa	ASTM D638
Tensile Strength	54.0	MPa	ASTM D638
Tensile Elongation (Break)	0.60	%	ASTM D638
Flexural Modulus	9180	MPa	ASTM D790
Flexural Strength	78.3	MPa	ASTM D790
Compressive Strength	186	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	19.9	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)	186	°C	ASTM D648
Continuous Use Temperature	203	°C	ASTM D794
CLTE - Flow	8.2E-5	cm/cm/°C	ASTM E831
Thermal Conductivity (100°C)	0.50	W/m/K	ASTM C177

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	6.9E+12	ohms·cm	ASTM D257
Dielectric Strength ¹	15	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	4.70		ASTM D150
Dissipation Factor (1 MHz)	0.037		ASTM D150
Arc Resistance	166	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
Oxygen Index	27	%	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: 0.17% Heat Resistance, ASTM D794: 203°C Drop Ball Impact, PLENCO Method: 85 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

- Method A (short time)

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