Plenco 06500 (Injection)

Phenolic

Plastics Engineering Co.

Message:

PLENCO 06500 is a glass reinforced phenolic molding compound offering improved strength, dimensional stability, and excellent electrical properties. UL recognized under component file E40654. 06500 is available in black.

Discription E46654-231622	General Information				
Features Good dimensional stability Good electrical performance Good electrical performance Good strength Good electrical performance Good strength Good electrical performance Good strength Good electrical performance Good e	UL YellowCard	E40654-231622			
	Filler / Reinforcement	Glass fiber reinforced material	Glass fiber reinforced material		
UL File Number E40654 Appearance Black Forms Blank Processing Method Injection molding Physical Nominal Value Unit Test Method Specific Gravity 1.77 g/cm² ASTM D792 Apparent Density 0.72 g/cm² ASTM D895 Molding Strinkage - Flow 0.32 % ASTM D955 Water Absorption (24 hr) 0.10 % ASTM D792 Macker Machanical Nominal Value Unit Test Method Reckwell Hardness (E-Scale) 96 — ASTM D785 Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Elongation (Break) 9.0 MPa ASTM D638 Tensile Elongation (Break) 12600 MPa ASTM D693 Flexural Strength 132 MPa ASTM D695 Flexural Strength 123 MPa ASTM D695 Impact Nominal Value Uni	Features	Good dimensional stability			
IL File Number E40654 Appearance Black Forms Blank Processing Method Injection molding Physical Nominal Value Unit Test Method Specific Gravity 1.77 g/cm³ ASTM D792 Apparent Density 0.72 g/cm³ ASTM D955 Molding Shrinkage - Flow 0.32 % ASTM D955 Water Absorption (24 hr) 0.10 % ASTM D795 Machanical Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 Long ASTM D785 Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Eingation (Break) 9.0 MPa ASTM D638 Tensile Eingation (Break) 132 MPa ASTM D638 Flexural Strength 132 MPa ASTM D695 Illiance 132 MPa ASTM D695 Impact Nominal Value <		Good electrical performance			
Appearance Black Forms Blank Processing Method Injection molding Physical Nominal Value Unit Test Method Specific Gravity 1.77 g/cm³ ASTM D792 Apparent Density 0.72 g/cm³ ASTM D895 Molding Shrinkage - Flow 0.32 % ASTM D955 Water Absorption (24 hr) 0.10 % ASTM D780 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 Unit Test Method Rechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Tensile Elongation (Break) 2.80 WPa ASTM D638 Flexural Modulus 12600 MPa ASTM D63 Elevarial Strength 32 MPa ASTM D69 Compressive Strength 213 MPa ASTM D65 Impact		Good strength			
Appearance Black Forms Blank Processing Method Injection molding Physical Nominal Value Unit Test Method Specific Gravity 1.77 g/cm³ ASTM D792 Apparent Density 0.72 g/cm³ ASTM D895 Molding Shrinkage - Flow 0.32 % ASTM D955 Water Absorption (24 hr) 0.10 % ASTM D780 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 Unit Test Method Rechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Tensile Elongation (Break) 2.80 WPa ASTM D638 Flexural Modulus 12600 MPa ASTM D63 Elevarial Strength 32 MPa ASTM D69 Compressive Strength 213 MPa ASTM D65 Impact					
Forms Blank Processing Method Injection molding Physical Nominal Value Unit Test Method Specific Gravity 1.77 g/cm² ASTM D792 Apparent Density 0.72 g/cm² ASTM D1895 Molding Shrinkage - Flow 0.32 % ASTM D570 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 Long MPa ASTM D785 Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Flexural Modulus 12600 MPa ASTM D638 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact Nominal Value Unit <t< td=""><td>UL File Number</td><td>E40654</td><td></td><td></td></t<>	UL File Number	E40654			
Processing Method Injection molding Physical Nominal Value Unit Test Method Specific Gravity 1.77 g/cm³ ASTM D792 Apparent Density 0.72 g/cm³ ASTM D1895 Molding Shrinkage - Flow 0.32 % ASTM D995 Water Absorption (24 hr) 0.10 % ASTM D570 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 STM D785 Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Flexural Modulus 12600 MPa ASTM D638 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact Nominal Value	Appearance	Black	Black		
Physical Nominal Value Unit Test Method Specific Gravity 1.77 g/cm³ ASTM D792 Apparent Density 0.72 g/cm³ ASTM D1895 Molding Shrinkage - Flow 0.32 % ASTM D955 Water Absorption (24 hr) 0.10 % ASTM D570 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 Unit Test Method Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Tensile Elongation (Break) 0.80 % ASTM D638 Flexural Modulus 12600 MPa ASTM D790 Flexural Strength 132 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 <tr< td=""><td>Forms</td><td colspan="3">Blank</td></tr<>	Forms	Blank			
Specific Gravity 1.77 g/cm³ ASTM D792 Apparent Density 0.72 g/cm³ ASTM D1895 Molding Shrinkage - Flow 0.32 % ASTM D955 Water Absorption (24 hr) 0.10 % ASTM D570 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 Unit Test Method Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Elongation (Break) 79.0 MPa ASTM D638 Tensile Elongation (Break) 0.80 % ASTM D638 Flexural Modulus 132 MPa ASTM D790 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256	Processing Method	Injection molding			
Apparent Density 0.72 g/cm³ ASTM D1895 Molding Shrinkage - Flow 0.32 % ASTM D955 Water Absorption (24 hr) 0.10 % ASTM D570 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 ASTM D785 Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Elongation (Break) 0.80 MPa ASTM D638 Flexural Modulus 12600 MPa ASTM D790 Flexural Strength 132 MPa ASTM D790 Flexural Strength 132 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 "C ASTM D648 <	Physical	Nominal Value	Unit	Test Method	
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Water Absorption (24 hr) 0.10 % ASTM D570 Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96 Test Method Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Tensile Elongation (Break) 0.80 % ASTM D638 Flexural Modulus 12600 MPa ASTM D790 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 7 C ASTM D648 Continuous Use Temperature 199 °C ASTM D648 <	Apparent Density	0.72	g/cm³	ASTM D1895	
Hardness Nominal Value Unit Test Method Rockwell Hardness (E-Scale) 96	Molding Shrinkage - Flow	0.32	%	ASTM D955	
Rockwell Hardness (E-Scale) 96 ASTM D785 Mechanical Nominal Value Unit Test Method Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Tensile Elongation (Break) 0.80 % ASTM D638 Flexural Modulus 12600 MPa ASTM D790 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Water Absorption (24 hr)	0.10	%	ASTM D570	
MechanicalNominal ValueUnitTest MethodTensile Modulus13500MPaASTM D638Tensile Strength79.0MPaASTM D638Tensile Elongation (Break)0.80%ASTM D638Flexural Modulus12600MPaASTM D790Flexural Strength132MPaASTM D790Compressive Strength213MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength29.0J/mASTM D256Notched Izod Impact34J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)Nominal ValueUnitTest MethodContinuous Use Temperature193°CASTM D648Continuous Use Temperature3.5E-5cm/cm/°CASTM D794	Hardness	Nominal Value	Unit	Test Method	
Tensile Modulus 13500 MPa ASTM D638 Tensile Strength 79.0 MPa ASTM D638 Tensile Elongation (Break) 0.80 % ASTM D638 Flexural Modulus 12600 MPa ASTM D790 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Rockwell Hardness (E-Scale)	96		ASTM D785	
Tensile Strength 79.0 MPa ASTM D638 Tensile Elongation (Break) 0.80 % ASTM D638 Flexural Modulus 12600 MPa ASTM D790 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact Strength 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 S.E-5 cm/cm/°C ASTM D794	Mechanical	Nominal Value	Unit	Test Method	
Tensile Elongation (Break) 6.80 6.	Tensile Modulus	13500	MPa	ASTM D638	
Flexural Modulus 12600 MPa ASTM D790 Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Thermal Nominal Value Unit Test Method Charpy Notched Izod Impact 34 ASTM D256 Thermal Nominal Value Unit ASTM D256 Continuous Use Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Tensile Strength	79.0	MPa	ASTM D638	
Flexural Strength 132 MPa ASTM D790 Compressive Strength 213 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Tensile Elongation (Break)	0.80	%	ASTM D638	
Compressive Strength213MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength29.0J/mASTM D256Notched Izod Impact34J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)199°CASTM D648Continuous Use Temperature193°CASTM D794CLTE - Flow3.5E-5cm/cm/°CASTM E831	Flexural Modulus	12600	MPa	ASTM D790	
ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength29.0J/mASTM D256Notched Izod Impact34J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)199°CASTM D648Continuous Use Temperature193°CASTM D794CLTE - Flow3.5E-5cm/cm/°CASTM E831	Flexural Strength	132	MPa	ASTM D790	
Charpy Notched Impact Strength 29.0 J/m ASTM D256 Notched Izod Impact 34 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Compressive Strength	213	MPa	ASTM D695	
Notched Izod Impact 34 Wominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Impact	Nominal Value	Unit	Test Method	
ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)199°CASTM D648Continuous Use Temperature193°CASTM D794CLTE - Flow3.5E-5cm/cm/°CASTM E831	Charpy Notched Impact Strength	29.0	J/m	ASTM D256	
Deflection Temperature Under Load (1.8 MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Notched Izod Impact	34	J/m	ASTM D256	
MPa, Unannealed) 199 °C ASTM D648 Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831	Thermal	Nominal Value	Unit	Test Method	
Continuous Use Temperature 193 °C ASTM D794 CLTE - Flow 3.5E-5 cm/cm/°C ASTM E831		199	°C	ASTM D648	
		193	°C	ASTM D794	
Thermal Conductivity (100°C) 0.54 W/m/K ASTM C177	CLTE - Flow	3.5E-5	cm/cm/°C	ASTM E831	
	Thermal Conductivity (100°C)	0.54	W/m/K	ASTM C177	

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	6.4E+11	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
1	20	kV/mm	ASTM D149
2	8.4	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	5.00		ASTM D150
Dissipation Factor (1 MHz)	0.033		ASTM D150
Arc Resistance	160	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	35	%	ASTM D2863
Additional Information			

Additional Information

The value listed as Thermal Conductivity, ASTM C177 was tested according to the ASTM E1461 standard. The value listed as Comparative Tracking Index, UL 746 was tested according to ASTM D3638. The value listed as Mold Shrink, Linear-Flow, ASTM D955 was tested according to the ASTM D6289 standard. Post Shrinkage, ASTM D6289, 72hr, 120°C: 0.08% Drop Ball Impact, PLENCO Method: 177 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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