# Plenco 06582 (Injection)

### Phenolic

Plastics Engineering Co.

## Message:

PLENCO 06582 is a rubber modified phenolic molding compound, offering excellent heat resistant properties, along with improved mechanical strength at elevated temperatures. UL recognized under component file E40654. 06582 is available in black.

UL YellowCard         E40654-231640           Features         Good strength Heat resistance, high           UL File Number         E40654           Appearance         Black           Forms         Blank           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.59         g/cm²         A5TM D792           Apparent Dencity         0.67         g/cm²         A5TM D955           Water Absorption (24 hr)         0.17         %         A5TM D955           Water Absorption (24 hr)         0.17         %         A5TM D785           Hardness (E-Scale)         42         Water Absorption (24 hr)         A5TM D785           Beckwell Hardness (E-Scale)         9.00         MPa         A5TM D638	General Information			
Part resistance, high   Part resistance, high	UL YellowCard	E40654-231640		
UL File Number         E40654           Appearance         Black           Forms         Blank           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.59         g/cm²         ASTM D792           Apparent Density         0.67         g/cm²         ASTM D1895           Molding Shrinkage - Flow         0.23         %         ASTM D956           Water Absorption (24 hr)         0.17         %         ASTM D970           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Elongation (Break)         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D790           Flexural Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Me	Features	Good strength		
Appearance         Black           Forms         Blank           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.59         g/cm³         ASTM D792           Apparent Density         0.67         g/cm³         ASTM D1895           Molding Shrinkage - Flow         0.23         %         ASTM D570           Mater Absorption (24 hr)         0.17         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Etength         55.0         MPa         ASTM D638           Flexural Modulus         8410         MPa         ASTM D698           Flexural Strength         9.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Izod Impact Strength         32		Heat resistance, high		
Forms         Blank           Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.59         g/cm²         ASTM D792           Apparent Density         0.67         g/cm²         ASTM D1895           Molding Shrinkage - Flow         0.23         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Strength         8410         MPa         ASTM D790           Flexural Modulus         8410         MPa         ASTM D790           Elexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         3.2         J/m         ASTM D256	UL File Number	E40654		
Processing Method         Injection molding           Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.59         g/cm²         ASTM D792           Apparent Density         0.67         g/cm²         ASTM D1895           Molding Shrinkage - Flow         0.23         %         ASTM D570           Water Absorption (24 hr)         0.17         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         STM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         550         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Flexural Modulus         8410         MPa         ASTM D638           Flexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D655           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Thermal         Nominal Value         <	Appearance	Black		
Physical         Nominal Value         Unit         Test Method           Specific Gravity         1.59         g/cm²         ASTM D792           Apparent Density         0.67         g/cm²         ASTM D1895           Molding Shrinkage - Flow         0.23         %         ASTM D570           Water Absorption (24 hr)         0.17         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ASTM D638           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Strength         880         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Stexural Strength         89.2         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         Nominal Value         Unit         Test Method           Deflecti	Forms	Blank		
Specific Gravity         1.59         g/cm³         ASTM D792           Apparent Density         0.67         g/cm³         ASTM D1895           Molding Shrinkage - Flow         0.23         %         ASTM D955           Water Absorption (24 hr)         0.17         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Elongation (Break)         0.80         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection T	Processing Method	Injection molding		
Apparent Density         0.67         g/cm²         ASTM D1895           Molding Shrinkage - Flow         0.23         %         ASTM D955           Water Absorption (24 hr)         0.17         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         Test Method           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Elongation (Break)         0.80         MPa         ASTM D638           Tensile Strength         8410         MPa         ASTM D790           Elexural Modulus         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D638           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8         C         ASTM D648           Continuous	Physical	Nominal Value	Unit	Test Method
Molding Shrinkage - Flow         0.23         %         ASTM D955           Water Absorption (24 hr)         0.17         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Elongation (Break)         0.80         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         234         °C         ASTM D648           Continuous Use Temperature         245         °C         ASTM D648	Specific Gravity	1.59	g/cm³	ASTM D792
Water Absorption (24 hr)         0.17         %         ASTM D570           Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Elongation (Break)         0.80         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Notched Izod Impact         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         "C         ASTM D648           Continuous Use Temperature         245         "C         ASTM D794      <	Apparent Density	0.67	g/cm³	ASTM D1895
Hardness         Nominal Value         Unit         Test Method           Rockwell Hardness (E-Scale)         42         ————————————————————————————————————	Molding Shrinkage - Flow	0.23	%	ASTM D955
Rockwell Hardness (E-Scale)         42         ASTM D785           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Elongation (Break)         0.80         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         °C         ASTM D648           Continuous Use Temperature         245         °C         ASTM D794           CLTE - Flow         5.3E-5         cm/cm/cm/c         ASTM C177           Electrical         Nominal Value         Unit         Test Method	Water Absorption (24 hr)	0.17	%	ASTM D570
Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Elongation (Break)         0.80         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         234         °C         ASTM D648           Continuous Use Temperature         245         °C         ASTM D794           CLTE - Flow         5.3E-5         cm/cm/°C         ASTM E831           Thermal Conductivity (100°C)         0.44         W/m/K         ASTM C177	Hardness	Nominal Value	Unit	Test Method
Tensile Modulus         9500         MPa         ASTM D638           Tensile Strength         55.0         MPa         ASTM D638           Tensile Elongation (Break)         0.80         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         "C         ASTM D648           Continuous Use Temperature         245         "C         ASTM D794           CLTE - Flow         5.3E-5         cm/cm/"C         ASTM E831           Thermal Conductivity (100°C)         0.44         W/m/K         ASTM C177           Electrical         Nominal Value         Unit         Test Method	Rockwell Hardness (E-Scale)	42		ASTM D785
Tensile Strength 55.0 MPa ASTM D638 Tensile Elongation (Break) 0.80 % ASTM D638 Flexural Modulus 8410 MPa ASTM D790 Flexural Strength 89.2 MPa ASTM D790 Compressive Strength 115 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 33.2 J/m ASTM D256 Notched Izod Impact Strength 39 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 234 °C Continuous Use Temperature 245 °C Continuous Use Temperature 53.3E-5 Cm/cm/°C Electrical Nominal Value Unit Test Method	Mechanical	Nominal Value	Unit	Test Method
Tensile Elongation (Break)         0.80         %         ASTM D638           Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D695           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         234         °C         ASTM D648           Continuous Use Temperature         245         °C         ASTM D794           CLTE - Flow         5.3E-5         cm/cm/°C         ASTM E831           Thermal Conductivity (100°C)         0.44         W/m/K         ASTM C177           Electrical         Nominal Value         Unit         Test Method	Tensile Modulus	9500	MPa	ASTM D638
Flexural Modulus         8410         MPa         ASTM D790           Flexural Strength         89.2         MPa         ASTM D790           Compressive Strength         115         MPa         ASTM D695           Impact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         33.2         J/m         ASTM D256           Notched Izod Impact         39         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         234         °C         ASTM D648           Continuous Use Temperature         245         °C         ASTM D794           CLTE - Flow         5.3E-5         cm/cm/°C         ASTM E831           Thermal Conductivity (100°C)         0.44         W/m/K         ASTM C177           Electrical         Nominal Value         Unit         Test Method	Tensile Strength	55.0	МРа	ASTM D638
Flexural Strength 89.2 MPa ASTM D790 Compressive Strength 115 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 33.2 J/m ASTM D256 Notched Izod Impact 39 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 234 °C ASTM D648 Continuous Use Temperature 245 °C ASTM D794 CLTE - Flow 5.3E-5 cm/cm/°C ASTM E831 Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177 Electrical Nominal Value Unit Test Method	Tensile Elongation (Break)	0.80	%	ASTM D638
Compressive Strength 115 MPa ASTM D695 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 33.2 J/m ASTM D256 Notched Izod Impact 39 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 234 °C ASTM D648 Continuous Use Temperature 245 °C ASTM D794 CLTE - Flow 5.3E-5 cm/cm/°C ASTM E831 Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177 Electrical Nominal Value Unit Test Method	Flexural Modulus	8410	МРа	ASTM D790
Impact Nominal Value Unit Test Method Charpy Notched Impact Strength 33.2 J/m ASTM D256 Notched Izod Impact 39 J/m ASTM D256 Thermal Nominal Value Unit Test Method Deflection Temperature Under Load (1.8 MPa, Unannealed) 234 °C ASTM D648 Continuous Use Temperature 245 °C ASTM D794 CLTE - Flow 5.3E-5 cm/cm°C ASTM E831 Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177 Electrical Nominal Value Unit Test Method	Flexural Strength	89.2	МРа	ASTM D790
Charpy Notched Impact Strength 33.2 J/m ASTM D256  Notched Izod Impact 39 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 234 °C ASTM D648  Continuous Use Temperature 245 °C ASTM D794  CLTE - Flow 5.3E-5 cm/cm/°C ASTM E831  Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177  Electrical Nominal Value Unit Test Method	Compressive Strength	115	МРа	ASTM D695
Notched Izod Impact 39 J/m ASTM D256  Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 234 °C ASTM D648  Continuous Use Temperature 245 °C ASTM D794  CLTE - Flow 5.3E-5 cm/cm/°C ASTM E831  Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177  Electrical Nominal Value Unit Test Method	Impact	Nominal Value	Unit	Test Method
Thermal Nominal Value Unit Test Method  Deflection Temperature Under Load (1.8 MPa, Unannealed) 234 °C ASTM D648  Continuous Use Temperature 245 °C ASTM D794  CLTE - Flow 5.3E-5 cm/cm/°C ASTM E831  Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177  Electrical Nominal Value Unit Test Method	Charpy Notched Impact Strength	33.2	J/m	ASTM D256
Deflection Temperature Under Load (1.8 MPa, Unannealed)  234  Continuous Use Temperature  245  CLTE - Flow  5.3E-5  cm/cm/°C  ASTM D648  ASTM D794  CLTE - Flow  Thermal Conductivity (100°C)  0.44  W/m/K  ASTM C177  Electrical  Nominal Value  Unit  Test Method	Notched Izod Impact	39	J/m	ASTM D256
MPa, Unannealed)234°CASTM D648Continuous Use Temperature245°CASTM D794CLTE - Flow5.3E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.44W/m/KASTM C177ElectricalNominal ValueUnitTest Method	Thermal	Nominal Value	Unit	Test Method
CLTE - Flow 5.3E-5 cm/cm/°C ASTM E831 Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177 Electrical Nominal Value Unit Test Method	•	234	°C	ASTM D648
Thermal Conductivity (100°C) 0.44 W/m/K ASTM C177  Electrical Nominal Value Unit Test Method	Continuous Use Temperature	245	°C	ASTM D794
Electrical Nominal Value Unit Test Method	CLTE - Flow	5.3E-5	cm/cm/°C	ASTM E831
	Thermal Conductivity (100°C)	0.44	W/m/K	ASTM C177
Volume Resistivity 6.3E+11 ohms·cm ASTM D257	Electrical	Nominal Value	Unit	Test Method
	Volume Resistivity	6.3E+11	ohms·cm	ASTM D257

Dielectric Strength			ASTM D149
1	13	kV/mm	ASTM D149
2	11	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	5.50		ASTM D150
Dissipation Factor (1 MHz)	0.085		ASTM D150
Arc Resistance	135	sec	ASTM D495
Comparative Tracking Index (CTI)	175	V	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (6.00 mm)	V-0		UL 94
Oxygen Index	36	%	ASTM D2863

#### Additional Information

Injection

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: 0.13%Drop Ball Impact, PLENCO Method: 285 J/m

Nominal Value

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	МРа	
Back Pressure	0.300	МРа	
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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