# Plenco 07200 (Injection)

### Phenolic

Plastics Engineering Co.

#### Message:

PLENCO 07200 is an organic fiber reinforced phenolic molding compound, offering improved mechanical strength, good powder properties and excellent cosmetic properties. UL recognized under component file E40654. 07200 is available in black.

U. VellowCardE40654-231628Filler / ReinforcementOrganic fillerFeaturesGood strengthUL File NumberE40654AppearanceBlackFormsParticlesProcessing MethodInjection moldingPhysicalNominal ValueUnitSpecific Gravity1.37g/cm <sup>1</sup> Appearance0.55g/cm <sup>1</sup> Appearance0.43%Molfing Shrinkage - Flow1.1%Macharge - Flow0.43%Macharge - Flow0.43%Macharge - Flow0.43%Macharge - Flow0.43%MachardenMominal ValueMathMater Absorption (24 hr)0.43%Machardense (E-Scale)79X5TM 0785MechanicalNominal ValueUnitTest MethodTensile Modulus7810MPaASTM 0588Tensile Modulus68.5MPaASTM 0588Tensile Strength68.5MPaASTM 0586Inspace1.88MPaASTM 0595Inspace1.93//mASTM 0556Inspace1.93//mASTM 0556Inspace1.93//mASTM 0796Compressive Strength1.88MPaASTM 0556Inspace1.48//mASTM 0556Inspace1.48//mASTM 0556Inspace1.48//mASTM 0556Inspace1.48//mASTM 0556Inspace1.48 <th>General Information</th> <th></th> <th></th> <th></th>	General Information			
FeaturesGood strengthUL Fie NumberE40654ApperanceBlackFormsParticlesProcessing MethodInjection moldingPhysicalNominal ValueUnitPhysicalSog/cm <sup>1</sup> Apperent Density0.55g/cm <sup>1</sup> Apparent Density0.43%Motinal SalueUnitTest MethodMotinal Salueg/cm <sup>1</sup> ASTM D792Apparent Density0.55g/cm <sup>2</sup> Moting Shrinkage - Flow1.1%National Salueg/cm <sup>2</sup> ASTM D795Matchess (E-Scale)79Test MethodRockwell Hardness (E-Scale)79Test MethodRockwell Hardness (E-Scale)79Test MethodTensile Kongth49.0MPaASTM D793Tensile Kongth68.0MPaASTM D693Tensile Kongth68.0MPaASTM D693Fensile Kongth68.5MPaASTM D693Compressive Strength19.3//maASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3//maASTM D695Compressive Strength19.3//maASTM D695Charpy Notched Impact Strength19.4//maASTM D695Charpy Notched Impact Strength19.3//maASTM D695Charpy Notched Impact Strength19.4//maASTM D695Charpy Notched Impact Strength19.3//maASTM D695Charpy Notched I	UL YellowCard	E40654-231628		
Ul File NumberE40654AppearanceBackFormsParticlesProcessing MethodInjection moldingPhysicalNominal ValueUnitPhysicalSocial ConstructionSocial ConstructionApparent Density0.55g/cm <sup>1</sup> ASTM D925Molding Shrinkage - Flow1.1% ConstructionASTM D925Mater Absorption (24 hr)0.43% ConstructionTest MethodRockvell HardnessNominal ValueUnitTest MethodRockvell HardnessNominal ValueUnitTest MethodRockvell HardnessRominal ValueUnitTest MethodRockvell HardnessRominal ValueUnitTest MethodRockvell Hardness60MPaASTM D638Tensle Modulus79XSTM D638StM D638Tensle Modulus610MPaASTM D638Tensle Strength620MPaASTM D638Rokural Strength68.5MPaASTM D638Compressive Strength8.8MPaASTM D636Compressive Strength1.8MPaASTM D636Compressive Strength1.9J/maASTM D636Compressive Strength1.9Main ValueMain ValueCompressive Strength1.8MPaASTM D636Compressive Strength1.8MPaMain ValueCompressive Strength1.9Main ValueMain ValueCompressive Strength1.8Main ValueMain ValueParent All Monde<	Filler / Reinforcement	Organic filler		
Apparance Apparance Forms Particles Foressing Method injection molding Physical injection molding injection injectin injectin injectin injectin injectin injecti	Features	Good strength		
ParticlesPorcessing MethodInjection moldingPhysicalNominal ValueUnitText MethodSpecific Gravity1.37g/cm³ASTM D792Apparent Density0.55g/cm³ASTM D795Molding Shrinkage - Flow1.1%ASTM D795Mater Absorption (24 hr)0.43%ASTM D570HardnessNominal ValueUnitTest MethodRockwell Hardness (E-Scale)79	UL File Number	E40654		
Processing Method     Injection molding       Physical     Nominal Value     Unit     Test Method       Specific Gravity     1.37     g/cm <sup>1</sup> ASTM 0792       Apparent Density     0.55     g/cm <sup>1</sup> ASTM 0792       Molding Shrinkage - Flow     1.1     %     ASTM 0795       Mater Absorption (24 hr)     0.43     %     ASTM 0795       Hardness     Nominal Value     Unit     Test Method       Rockwell Hardness (E-Scale)     79     Test Method     ASTM 0785       Mechanical     Nominal Value     Unit     Test Method       Tensile Modulus     7810     MPa     ASTM 0638       Tensile Strength     49.0     MPa     ASTM 053       Tensile Elongation (Break)     070     %     ASTM 053       Flexural Modulus     6260     MPa     ASTM 059       Compressive Strength     188     MPa     ASTM 059       Impact     Nominal Value     Min     ASTM 054       Nortical Lood Impact Strength     184     Man     ASTM 054       Nothotal Value	Appearance	Black		
PhysicalNominal ValueUnitTest MethodSpecific Gravity1.37g/cm³ASTM D792Apparent Density0.55g/cm³ASTM D1895Molding Shrinkage - Flow1.1% GASTM D955Water Absorption (24 hr)0.43% GASTM D570HardnessNominal ValueUnitTest MethodRockwell Hardness (E-Scale)79ASTM D785MechanicalNominal ValueUnitTest MethodTensile Modulus7810MPaASTM D638Tensile Strength49.0MPaASTM D638Tensile Elongation (Break)0.70%ASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength88.5MPaASTM D790Compressive Strength19.3J/mASTM D256Nominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Pellection Temperature Under Load (11)148CASTM D256Pellection Temperature Under Load (11)148CASTM D648Continuous Use Temperature187CASTM D648Charpy Conductivity (1100°C)0.35W/m/KASTM D794Flexural Conductivity (100°C)0.35W/m/KASTM D257	Forms	Particles		
Specific Gravity     1.37     g/cm <sup>2</sup> ASTM D792       Apparent Density     0.55     g/cm <sup>2</sup> ASTM D1895       Molding Shrinkage - Flow     1.1     %     ASTM D951       Water Absorption (24 hr)     0.43     %     ASTM D570       Hardness     Nominal Value     Unit     Test Method       Rockwell Hardness (E-Scale)     79     ASTM D785       Rockwell Hardness (E-Scale)     79     ASTM D785       Mechanical     Nominal Value     Unit     Test Method       Rockwell Hardness (E-Scale)     79     ASTM D638     Test Method       Tensile Kodulus     7810     MPa     ASTM D638       Tensile Strength     49.0     MPa     ASTM D638       Flexural Modulus     6260     MPa     ASTM D790       Compressive Strength     88     MPa     ASTM D792       Impact     Nominal Value     MPa     ASTM D658       Charpy Notched Impact Strength     19.3     //ma     ASTM D656       Nohel Value     Jinto     Test Method     Stetthot D656       Notched I	Processing Method	Injection molding		
Apparent Density0.55g/cm³ASTM D1895Molding Shrinkage - Flow1.1%ASTM D955Water Absorption (24 hr)0.43%ASTM D957HardnessNominal ValueUnitTest MethodRockwell Hardness (E-Scale)9	Physical	Nominal Value	Unit	Test Method
NormanNormanNorma <t< td=""><td>Specific Gravity</td><td>1.37</td><td>g/cm<sup>3</sup></td><td>ASTM D792</td></t<>	Specific Gravity	1.37	g/cm <sup>3</sup>	ASTM D792
Water Absorption (24 hr)0.43%ASTM DS70HardnessNominal ValueUnitTest MethodRockwell Hardness (E-Scale)79InitTest MethodMechanicalNominal ValueUnitTest MethodTensile Modulus7810MPaASTM D638Tensile Strength49.0MPaASTM D638Tensile Longation (Break)0.70%ASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D790Compressive Strength188MPaASTM D550InpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D550Notched Izod Impact19.3J/mASTM D550ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unanneeled)184"CASTM D548MPa, Unanneeled)184"CASTM D548Continuous Use Temperature187"CASTM D548Cli E- Flow53E-5m/m/"CASTM D548Cli E- Flow0.35W/m/KASTM D57ElectricalNominal ValueUnitTest MethodVolume Resistivity16E+11wins-cmASTM D55	Apparent Density	0.55	g/cm <sup>3</sup>	ASTM D1895
HardnessNominal ValueUnitTest MethodRockwell Hardness (E-Scale)79ASTM D785MechanicalNominal ValueUnitTest MethodTensile Modulus7810MPaASTM D638Tensile Strength49.0MPaASTM D638Tensile Elongation (Break)0.70%ASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D790Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact21J/mASTM D256Deflection Temperature Under Load (LS MPa, Unannealed)187°CASTM D648Continuous Use Temperature187°CASTM D548ClTE - Flow0.35cm/cm/°CASTM D594ClTE - Flow0.35W/m/KASTM D794Clter Flow1.6E+11ohms·cmASTM D257	Molding Shrinkage - Flow	1.1	%	ASTM D955
Rockwell Hardness (E-Scale)79ASTM D785MechanicalNominal ValueUnitTest MethodTensile Modulus7810MPaASTM D638Tensile Strength49.0MPaASTM D638Tensile Elongation (Break)0.70%ASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D790Compressive Strength188MPaASTM D695InpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact19.3J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (J.S.Nominal ValueASTM D256Deflection Temperature Under Load (J.S.148Cancence)ASTM D794Cutinuous Use Temperature187Cancence)ASTM D794ClTE - Flow32.5m/m/mCASTM D794ClTE - Flow0.35m/m/mCASTM D256Thermal Conductivity (100°C)0.36W/m/KASTM D794CletricalNominal ValueVim/rKASTM D794CletricalNominal ValueMinal Cancence)ASTM D794 <td< td=""><td>Water Absorption (24 hr)</td><td>0.43</td><td>%</td><td>ASTM D570</td></td<>	Water Absorption (24 hr)	0.43	%	ASTM D570
MechanicalNominal ValueUnitTest MethodTensile Modulus7810MPaASTM D638Tensile Strength49.0MPaASTM D638Tensile Elongation (Break)0.70%ASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D790Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod ImpactNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)Nominal ValueUnitASTM D648Continuous Use Temperature187°CASTM D648Charpy Notched Izod (1.8 MPa, Unannealed)S3E-5cm/cm/°CASTM D794CITE - Flow5.3E-5cm/cm/°CASTM D794Chernal Conductivity (100°C)0.35W/m/KASTM D257Volume Resistivity1.6E+11ohms·cmASTM D257	Hardness	Nominal Value	Unit	Test Method
Tensile Modulus7810MPaASTM D638Tensile Strength49.0MPaASTM D638Tensile Elongation (Break)0.70%ASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D790Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact19.3UnitTest MethodDeflection Temperature Under Load (18 MPa, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D648Charpy Notched Indoction35E-5cm/cm/~CASTM D794Charpe Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodCharpe Resistivity1.6E+11Noms-cmASTM D257	Rockwell Hardness (E-Scale)	79		ASTM D785
Tensile Strength49.0MPaASTM D638Tensile Elongation (Break)0.70%ASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D638Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact21J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8) MPA, Unannealed)184°CASTM D648Continuous Use Temperature187°CASTM D648Charpy Conductivity (100°C)0.35m/m/CASTM C177ElectricalNominal ValueUnitTest MethodOutome Resistivity16E+11ohms-cmASTM C172	Mechanical	Nominal Value	Unit	Test Method
Tensile Elongation (Break)0.70% ORASTM D638Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D695Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength9.3J/mASTM D256Notched Izod Impact21J/mASTM D256ThermalNominal ValueUnitTest MethodPeffection Temperature Under Load (LS148CASTM D648Continuous Use Temperature187CASTM D648Charpy Londouctivity (100°C)3.5Vm/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms·cmASTM D257	Tensile Modulus	7810	MPa	ASTM D638
Flexural Modulus6260MPaASTM D790Flexural Strength68.5MPaASTM D790Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact21J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8) MPa, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D794ClE F Flow3.85-5cm/cm/°CASTM D794Chernal Conductivity (100°C)0.35Wm/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms cmASTM D257	Tensile Strength	49.0	MPa	ASTM D638
Flexural Strength68.5MPaASTM D790Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact21J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8) MPA, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D794Charperature5.8-5m/cm/°CASTM D794Charperature0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodColume Resistivity1.6+11ohms cmASTM D257	Tensile Elongation (Break)	0.70	%	ASTM D638
Compressive Strength188MPaASTM D695ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact21J/mTest MethodThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)148°cASTM D648Continuous Use Temperature187°cASTM D648ClTE - Flow5.8E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms·cmASTM D257	Flexural Modulus	6260	MPa	ASTM D790
ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact21J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D648CLTE - Flow5.3E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms cmASTM D257	Flexural Strength	68.5	MPa	ASTM D790
Charpy Notched Impact Strength19.3J/mASTM D256Notched Izod Impact21J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPA, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D648CITE - Flow5.3E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.35V/m/KASTM C177ElectricalNominal ValueUnitTest MethodYolume Resistivity1.6E+11ohms cmASTM D257	Compressive Strength	188	MPa	ASTM D695
Notched Izod Impact21J/mASTM D256ThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D794CLTE - Flow5.8E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms·cmASTM D257	Impact	Nominal Value	Unit	Test Method
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Deflection Temperature Under Load (1.8 MPa, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D794CLTE - Flow5.3E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms · cmASTM D257	Notched Izod Impact	21	J/m	ASTM D256
MPa, Unannealed)148°CASTM D648Continuous Use Temperature187°CASTM D794CLTE - Flow5.3E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms · cmASTM D257	Thermal	Nominal Value	Unit	Test Method
CLTE - Flow5.8E-5cm/cm/°CASTM E831Thermal Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms·cmASTM D257	•	148	°C	ASTM D648
Thermal Conductivity (100°C)0.35W/m/KASTM C177ElectricalNominal ValueUnitTest MethodVolume Resistivity1.6E+11ohms · cmASTM D257	Continuous Use Temperature	187	°C	ASTM D794
Electrical Nominal Value Unit Test Method   Volume Resistivity 1.6E+11 ohms · cm ASTM D257	CLTE - Flow	5.3E-5	cm/cm/°C	ASTM E831
Volume Resistivity 1.6E+11 ohms · cm ASTM D257	Thermal Conductivity (100°C)	0.35	W/m/K	ASTM C177
	Electrical	Nominal Value	Unit	Test Method
Dielectric Strength <sup>1</sup> 7.2 kV/mm ASTM D149	Volume Resistivity	1.6E+11	ohms·cm	ASTM D257
	Dielectric Strength <sup>1</sup>	7.2	kV/mm	ASTM D149

Dielectric Constant (1 MHz)	5.40		ASTM D150
Dissipation Factor (1 MHz)	0.066		ASTM D150
Arc Resistance	120	sec	ASTM D495
Comparative Tracking Index (CTI)	150	V	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (6.00 mm)	V-0		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 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: 0.46% Drop Ball Impact, PLENCO Method: 146 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)		

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#### Recommended distributors for this material

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