

EMERGE™ PC 8070-15

Trinseo - Advanced Resin

Tuesday, November 5, 2019

General Information

Product Description

EMERGE™ PC 8070-15 advanced resin is an opaque, ignition resistant PC resin that contains no chlorinated or brominated or phosphorous based additives. This resin contains mould release and it is UV stabilized. It combines good mechanical and high heat properties and maintains excellent processability. EMERGE™ PC 8070-15 has a UL 94 V-0 rating at 0.7 mm. and is F1 rated according to UL746C

Applications:

- Electrical
- Electronics

General				
Material Status	Commercial: Active			
Availability	Asia Pacific	• Europe	North America	
Additive	 Mold Release 			
Features	Bromine FreeChlorine Free	Flame RetardantGood Processability	High Heat ResistanceLow (to None) Phosphorus Content	
Uses	Electrical/Electronic Applications			
Forms	Pellets			

Density 1.20 g/cm³ ISO 1183/B Melt Mass-Flow Rate (MFR) (300°C/1.2 kg) 15 g/10 min ISO 1133 Molding Shrinkage 0.50 to 0.70 % ISO 294-4 Outdoor Suitability 1 UL 746C Mechanical Nominal Value Unit Test Method Tensile Modulus 348000 psi ISO 527-2 Tensile Stress (Yield) 8700 psi ISO 527-2 Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178	ASTM & ISO Properties ¹					
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg) 15 g/10 min ISO 1133 Molding Shrinkage 0.50 to 0.70 % ISO 294-4 Outdoor Suitability f1 UL 746C Mechanical Nominal Value Unit Test Method Tensile Modulus 348000 psi ISO 527-2 Tensile Stress (Yield) 8700 psi ISO 527-2 Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Tensile Strain (Break) 341000 psi ISO 1527-2 Flexural Modulus 341000 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 31 ft-lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft-lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (264 psi, Annealed) 289	Physical	Nominal Value	Unit	Test Method		
Molding Shrinkage 0.50 to 0.70 % ISO 294-4 Outdoor Suitability ft UL 746C Mechanical Nominal Value Unit Test Method Tensile Modulus 348000 psi ISO 527-2 Tensile Stress (Yield) 8700 psi ISO 527-2 Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Tensile Strain (Break) 341000 psi ISO 178 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft-Ib/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft-Ib/in² ISO 180/A Thermal Nominal Value Unit Test Method	Density	1.20	g/cm³	ISO 1183/B		
Outdoor Suitability ft UL 746C Mechanical Nominal Value Unit Test Method Tensile Modulus 348000 psi ISO 527-2 Tensile Stress (Yield) 8700 psi ISO 527-2 Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Annealed) 284 °F ISO 75-2/A Vicat Softening Temperature 298	Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ISO 1133		
Mechanical Nominal Value Unit Test Method Tensile Modulus 348000 psi ISO 527-2 Tensile Stress (Yield) 8700 psi ISO 527-2 Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 255 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperatur	Molding Shrinkage	0.50 to 0.70	%	ISO 294-4		
Tensile Modulus 348000 psi ISO 527-2 Tensile Stress (Yield) 8700 psi ISO 527-2 Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 284 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature 298 °F ISO 306/B50	Outdoor Suitability	f1		UL 746C		
Tensile Stress (Yield) 8700 psi ISO 527-2 Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·Ib/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·Ib/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 255 °F ISO 75-2/A Heat Deflection Temperature (264 psi, Annealed) 284 °F ISO 306/B50 Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature 257 °F IEC 60335-1	Mechanical	Nominal Value	Unit	Test Method		
Tensile Stress (Break) 10200 psi ISO 527-2 Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 284 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature > 257 °F IEC 60335-1	Tensile Modulus	348000	psi	ISO 527-2		
Tensile Strain (Yield) 6.0 % ISO 527-2 Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·Ib/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·Ib/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 255 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature >257 °F IEC 60335-1	Tensile Stress (Yield)	8700	psi	ISO 527-2		
Tensile Strain (Break) 110 % ISO 527-2 Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 255 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature >257 °F ISO 306/B50	Tensile Stress (Break)	10200	psi	ISO 527-2		
Flexural Modulus 341000 psi ISO 178 Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 255 °F ISO 75-2/A Heat Deflection Temperature (264 psi, Annealed) 284 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature >257 °F IEC 60335-1	Tensile Strain (Yield)	6.0	%	ISO 527-2		
Flexural Stress 13800 psi ISO 178 Impact Nominal Value Unit Test Method Charpy Notched Impact Strength (73°F) 12 ft·lb/in² ISO 179/1eA Notched Izod Impact Strength (73°F) 31 ft·lb/in² ISO 180/A Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) 289 °F ISO 75-2/B Heat Deflection Temperature (264 psi, Unannealed) 255 °F ISO 75-2/A Heat Deflection Temperature (264 psi, Annealed) 284 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature 355 °F IEC 60335-1	Tensile Strain (Break)	110	%	ISO 527-2		
ImpactNominal ValueUnitTest MethodCharpy Notched Impact Strength (73°F)12 ft·lb/in²ISO 179/1eANotched Izod Impact Strength (73°F)31 ft·lb/in²ISO 180/AThermalNominal ValueUnitTest MethodHeat Deflection Temperature (66 psi, Annealed)289 °FISO 75-2/BHeat Deflection Temperature (264 psi, Unannealed)255 °FISO 75-2/AHeat Deflection Temperature (264 psi, Annealed)284 °FISO 75-2/AVicat Softening Temperature298 °FISO 306/B50Ball Indentation Temperature> 257 °FIEC 60335-1	Flexural Modulus	341000	psi	ISO 178		
Charpy Notched Impact Strength (73°F) Notched Izod Impact Strength (73°F) Notched Izod Impact Strength (73°F) Nominal Value Nominal Value Heat Deflection Temperature (66 psi, Annealed) Heat Deflection Temperature (264 psi, Unannealed) Heat Deflection Temperature (264 psi, Annealed) Yes Heat Deflection Temperature (264 psi, Annealed) Heat Deflection Temperature (264 psi, Annealed) Yicat Softening Temperature Provided Softening Tempe	Flexural Stress	13800	psi	ISO 178		
Notched Izod Impact Strength (73°F) Thermal Nominal Value Unit Test Method Heat Deflection Temperature (66 psi, Annealed) Heat Deflection Temperature (264 psi, Unannealed) Heat Deflection Temperature (264 psi, Unannealed) Thermal Heat Deflection Temperature (264 psi, Unannealed) Test Method 180 75-2/B ISO 75-2/B ISO 75-2/A Vicat Softening Temperature 180 75-2/A Vicat Softening Temperature 180 306/B50 Ball Indentation Temperature	Impact	Nominal Value	Unit	Test Method		
ThermalNominal ValueUnitTest MethodHeat Deflection Temperature (66 psi, Annealed)289 °FISO 75-2/BHeat Deflection Temperature (264 psi, Unannealed)255 °FISO 75-2/AHeat Deflection Temperature (264 psi, Annealed)284 °FISO 75-2/AVicat Softening Temperature298 °FISO 306/B50Ball Indentation Temperature> 257 °FIEC 60335-1	Charpy Notched Impact Strength (73°F)	12	ft·lb/in²	ISO 179/1eA		
Heat Deflection Temperature (66 psi, Annealed) Heat Deflection Temperature (264 psi, Unannealed) Heat Deflection Temperature (264 psi, Unannealed) Heat Deflection Temperature (264 psi, Annealed) Z84 °F ISO 75-2/A Vicat Softening Temperature Z98 °F ISO 306/B50 Ball Indentation Temperature > 257 °F IEC 60335-1	Notched Izod Impact Strength (73°F)	31	ft·lb/in²	ISO 180/A		
Heat Deflection Temperature (264 psi, Unannealed)255 °FISO 75-2/AHeat Deflection Temperature (264 psi, Annealed)284 °FISO 75-2/AVicat Softening Temperature298 °FISO 306/B50Ball Indentation Temperature> 257 °FIEC 60335-1	Thermal	Nominal Value	Unit	Test Method		
Heat Deflection Temperature (264 psi, Annealed) Vicat Softening Temperature 298 °F ISO 75-2/A Vicat Softening Temperature 298 °F ISO 306/B50 Ball Indentation Temperature > 257 °F IEC 60335-1	Heat Deflection Temperature (66 psi, Annealed)	289	°F	ISO 75-2/B		
Vicat Softening Temperature298 °FISO 306/B50Ball Indentation Temperature> 257 °FIEC 60335-1	Heat Deflection Temperature (264 psi, Unannealed)	255	°F	ISO 75-2/A		
Ball Indentation Temperature > 257 °F IEC 60335-1	Heat Deflection Temperature (264 psi, Annealed)	284	°F	ISO 75-2/A		
1	Vicat Softening Temperature	298	°F	ISO 306/B50		
CLTE - Flow 3.9E-5 in/in/°F ISO 11359-2	Ball Indentation Temperature	> 257	°F	IEC 60335-1		
	CLTE - Flow	3.9E-5	in/in/°F	ISO 11359-2		



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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Electric Strength	430	V/mil	IEC 60243-1
Dielectric Constant			IEC 60250
1 Hz	2.70		
50 Hz	2.70		
Dissipation Factor			IEC 60250
1 Hz	1.0E-3		
50 Hz	1.0E-3		
Comparative Tracking Index (Solution A)	225	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.028 in ²	V-0		
0.08 in	5VB		
0.10 in ²	5VA		
Glow Wire Flammability Index ²			IEC 60695-2-12
0.04 in	1760	°F	
0.08 in	1760	°F	
0.12 in	1760	°F	
0.12 in Glow Wire Ignition Temperature ²	1760	°F	IEC 60695-2-13
	1760 1470		IEC 60695-2-13
Glow Wire Ignition Temperature ²		°F	IEC 60695-2-13
Glow Wire Ignition Temperature ² 0.04 in	1470	°F	IEC 60695-2-13

Processing Information				
Injection	Nominal Value Un	nit		
Drying Temperature	248 °F			
Drying Time	3.0 to 4.0 hr			
Processing (Melt) Temp	> 572 °F			
Mold Temperature	158 to 212 °F			

Notes

¹ Typical properties: these are not to be construed as specifications.

² This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.