Impet® 830R

Celanese Corporation - Polyethylene Terephthalate

Tuesday, November 5, 2019

General Information

Product Description

Impet 830R is a 35% glass/mineral reinforced injection moldable polyester made with recycled PET. It provides an excellent combination of strength, stiffness, warp resistance, and high temperature capability together with excellent processability (high flow) during molding.

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass\Mineral, 35% Filler by Weight		
Recycled Content	• Yes		
Features	• Good Processability • Good Stiffness	• Good Strength • High Flow	• High Heat Resistance • Warp Resistant
RoHS Compliance	• Contact Manufacturer		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.59	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/2.16 kg)	5.0	g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.60	%	
Flow	0.20	%	
Water Absorption (Equilibrium, 73°F, 50% RH)	0.13	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	1.60E+6	psi	ISO 527-2/1A
Tensile Stress (Break)	17400	psi	ISO 527-2/1A/5
Tensile Strain (Break)	2.0	%	ISO 527-2/1A/5
Flexural Modulus (73°F)	1.58E+6	psi	ISO 178
Flexural Stress (73°F)	27600	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.5	ft·lb/in²	
73°F	3.3	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	10	ft·lb/in²	
73°F	12	ft·lb/in²	
Notched Izod Impact Strength (73°F)	3.0	ft·lb/in²	ISO 180/1A
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	115		ISO 2039-2
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (66 psi, Unannealed)	455	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	403	°F	ISO 75-2/A
Glass Transition Temperature [2]	169	°F	ISO 11357-2
Melting Temperature [2]	471	°F	ISO 11357-3

Impet® 830R

Celanese Corporation - Polyethylene Terephthalate

Thermal	Nominal Value	Unit	Test Method
CLTE - Flow	1.2E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	4.4E-5	in/in/°F	ISO 11359-2

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	7.0E+15	ohms·cm	IEC 60093
Arc Resistance	58.0	sec	Internal Method
Comparative Tracking Index	200	V	IEC 60112

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	266 to 284	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.010	%
Hopper Temperature	68 to 122	°F
Rear Temperature	491 to 509	°F
Middle Temperature	500 to 527	°F
Front Temperature	500 to 527	°F
Nozzle Temperature	518 to 554	°F
Processing (Melt) Temp	500 to 554	°F
Mold Temperature	230 to 250	°F
Injection Rate	Moderate-Fast	

Injection Notes

Feeding zone temperature: 255 to 265°C
Zone4 temperature: 265 to 280°C
Hot runner temperature: 260 to 290°C

Notes

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

[2] 10°C/min