

Impet® 830R

Polyethylene Terephthalate

Celanese Corporation

Message:

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 Information			
Filler / Reinforcement	Glass \mineral, 35% filler by weight		
Features	Rigid, good		
	Bending resistance		
	Workability, good		
	Good strength		
	High liquidity		
	Low shrinkage		
RoHS Compliance	Contact manufacturer		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.60	g/cm ³	ASTM D792
--	1.59	g/cm ³	ISO 1183
Molding Shrinkage			ISO 294-4
Vertical flow direction	0.60	%	ISO 294-4
Flow direction	0.20	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.13	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	115		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	11000	MPa	ISO 527-2/1A/1
Tensile Strength			
Fracture, 23°C	103	MPa	ASTM D638
Fracture	120	MPa	ISO 527-2/1A/5
Tensile Elongation			
Fracture, 23°C	2.1	%	ASTM D638
Fracture	2.0	%	ISO 527-2/1A/5
Flexural Modulus (23°C)	10900	MPa	ISO 178
Flexural Stress (23°C)	190	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	5.3	kJ/m ²	ISO 179/1eA

23°C	7.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	22	kJ/m ²	ISO 179/1eU
23°C	26	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	6.4	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	235	°C	ISO 75-2/B
1.8 MPa, not annealed	216	°C	ASTM D648
1.8 MPa, not annealed	206	°C	ISO 75-2/A
Glass Transition Temperature ¹	76.0	°C	ISO 11357-2
Melting Temperature ²	244	°C	ISO 11357-3
Linear thermal expansion coefficient			ISO 11359-2
Flow	2.1E-5	cm/cm/°C	ISO 11359-2
Lateral	8.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	ASTM D257
Volume Resistivity			
--	1.0E+15	ohms·cm	ASTM D257
--	7.0E+15	ohms·cm	IEC 60093
Dielectric Strength ³	18	kV/mm	ASTM D149
Dielectric Constant (10 kHz)	3.80		ASTM D150
Dissipation Factor (10 kHz)	0.016		ASTM D150
Arc Resistance	125	sec	ASTM D495
Comparative Tracking Index			
--	200	V	IEC 60112
--	175	V	ASTM D3638
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	130 - 140	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.010	%	
Suggested Max Regrind	25	%	
Hopper Temperature	20.0 - 50.0	°C	
Rear Temperature	255 - 265	°C	
Middle Temperature	260 - 275	°C	
Front Temperature	260 - 275	°C	
Nozzle Temperature	270 - 290	°C	
Processing (Melt) Temp	260 - 290	°C	
Mold Temperature	110 - 121	°C	
Injection Rate	Moderate-Fast		

Back Pressure	0.00 - 0.172	MPa
Injection instructions		
Manifold Temperature: 260 to 290°CZone 4 Temperature: 265 to 280°CFeed Temperature: 255 to 265°C		
NOTE		
1.	10°C/min	
2.	10°C/min	
3.	Method A (short time)	

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