

IMPET® 830R

35% glass/mineral, low shrinkage

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.

Rheological properties

Melt mass-flow rate	5 g/10min	ISO 1133
Melt mass-flow rate, Temperature	280 °C	
Moulding shrinkage, parallel	0.2 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.6 %	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	11000 MPa	ISO 527-1/-2
Stress at break, 5mm/min	120 MPa	ISO 527-1/-2
Strain at break, 5mm/min	2 %	ISO 527-1/-2
Flexural Modulus	10900 MPa	ISO 178
Flexural Strength	190 MPa	ISO 178
Charpy impact strength, 23°C	26 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	22 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	7 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	5.3 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	6.4 kJ/m ²	ISO 180/1A
Hardness, Rockwell, M-scale	115	ISO 2039-2

Thermal properties

Melting temperature, 10°C/min	244 °C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	76 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	206 °C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	235 °C	ISO 75-1/-2

Electrical properties

Volume resistivity	7E13 Ohm.m	IEC 62631-3-1
Comparative tracking index	PLC 3 PLC	UL 746A
Arc Resistance	58 s	Internal

Other properties

Humidity absorption, 2mm	0.13 %	Sim. to ISO 62
Density	1590 kg/m ³	ISO 1183

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Injection

Drying Temperature	130 - 140 °C
Drying Time, Dehumidified Dryer	4 h
Processing Moisture Content	0.01 %
Max. mould temperature	110 - 121 °C
Injection speed	medium-fast

Additional information

Injection molding	Rear Temperature 500-520(260-270) deg F (deg C) Center Temperature 520-530(270-275) deg F (deg C) Front Temperature 530-540(275-280) deg F (deg C) Nozzle Temperature 530-550(275-290) deg F (deg C) Melt Temperature 520-570(270-300) deg F (deg C) Mold Temperature 230-250(110-120) deg F (deg C) Back Pressure 0-25 psi Screw Speed 50-75 rpm Injection Speed Medium/Fast
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Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.

Processing Texts

Pre-drying	To avoid hydrolytic degradation during processing, Impet resins have to be dried to a moisture level equal to or less than 0.01%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 275°F (135°C) for 4 hours.
Longer pre-drying times/storage	For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.
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Injection molding Preprocessing

To avoid hydrolytic degradation during processing, IMPET resins have to be dried to a moisture level equal to or less than 0.01%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-30°F (-34°C) at 275°F (121°C) for 4 hours.

Other Approvals

Other Approvals

OEM	Specification	Additional Information
Stellantis - Chrysler	CPN 3425	Black