Celanese
The chemistry inside innovation™

IMPET® 330R

30% glass-fiber
Impet 330R is a 30% glass reinforced injection moldable polyester containing post consumer recycled PET. It provides an excellent combination of strength, stiffness, and high temperature resistance.

Rheological properties

Melt mass-flow rate	3	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	160	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.3	%	ISO 527-1/-2
Flexural Modulus	11000	MPa	ISO 178
Flexural Strength	229	MPa	ISO 178
Charpy impact strength, 23°C	27	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	28	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	8.5	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	8.8	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	8.8	kJ/m²	ISO 180/1A
Hardness, Rockwell, M-scale	122		ISO 2039-2
Shore D hardness, 15s	86		ISO 48-4 / ISO 868

Thermal properties

Melting temperature, 10°C/min	244	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	73	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	221	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	240	°C	ISO 75-1/-2

Flammability

Oxygen index	25	%	ISO 4589-1/-2

Electrical properties

Relative permittivity, 100Hz	2.83		IEC 62631-2-1
Relative permittivity, 1MHz	3.46		IEC 62631-2-1
Dissipation factor, 100Hz	120	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	140	E-4	IEC 62631-2-1
Volume resistivity	7E14	Ohm.m	IEC 62631-3-1
Surface resistivity	3E15	Ohm	IEC 62631-3-2
Electric strength	32	kV/mm	IEC 60243-1
Comparative tracking index	PLC 3	PLC	UL 746A
Arc Resistance	25	s	Internal

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Other properties

Humidity absorption, 2mm	0.16	%	Sim. to ISO 62
Density	1580	kg/m³	ISO 1183

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

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.

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)
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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 2621	
Ford	WSS-M4D726-A3	Natural & Black