Celanese
The chemistry inside innovation™

IMPET® 340R

45% glass fiber
Impet 340R is a 45% glass-reinforced injection moldable polyester made with post consumer recycled PET. It provides an excellent combination of strength, stiffness, and high temperature resistance.

Rheological properties

Melt mass-flow rate	4	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	16800	MPa	ISO 527-1/-2
Stress at break, 5mm/min	175	MPa	ISO 527-1/-2
Strain at break, 5mm/min	1.7	%	ISO 527-1/-2
Elongational stress, 150/10	0.15	MPa	ISO 21304-2
Flexural Modulus	15400	MPa	ISO 178
Flexural Strength	255	MPa	ISO 178
Charpy impact strength, 23°C	24	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	21	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	11	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	9	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	9.5	kJ/m²	ISO 180/1A
Hardness, Rockwell, M-scale	121		ISO 2039-2

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	229	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	240	°C	ISO 75-1/-2

Flammability

Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	0.81	mm	UL 94
Oxygen index	22	%	ISO 4589-1/-2

Electrical properties

Volume resistivity	1E14	Ohm.m	IEC 62631-3-1
Comparative tracking index	PLC 3	PLC	UL 746A
Arc Resistance	80	s	Internal

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Other properties

Density	1730	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.

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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.