Ticona
Engineering Polymers

IMPET® 330 | PET | Glass Reinforced

Description

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

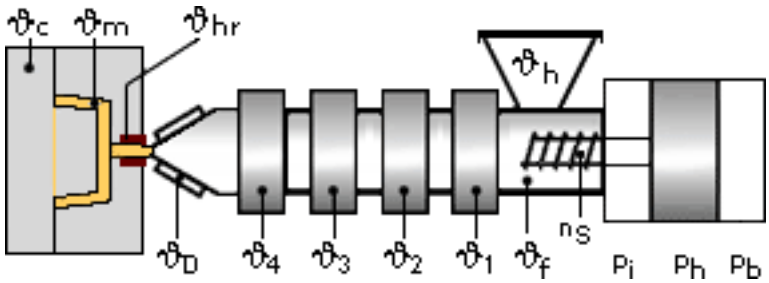
Physical properties	Value	Unit	Test Standard
Density	**1580**	kg/m³	ISO 1183
Mold shrinkage - parallel	**0.1-0.3**	%	ISO 294-4

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**11000**	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	**170**	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	**2.6**	%	ISO 527-2/1A
Flexural modulus (23°C)	**11000**	MPa	ISO 178
Flexural strength (23°C)	**270**	MPa	ISO 178
Notched impact strength (Izod) @ 23°C	**11**	kJ/m²	ISO 180/1A

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**250**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**224**	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	**240**	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	**0.32**	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	**0.77**	E-4/°C	ISO 11359-2
Flammability at thickness h	**HB**	class	UL94
thickness tested (h)	**0.78**	mm	UL94

Test specimen production	Value	Unit	Test Standard
Processing conditions acc. ISO	**7792-2**	-	Internal
Injection molding melt temperature	**285**	°C	ISO 294
Injection molding mold temperature	**135**	°C	ISO 294
Injection molding flow front velocity	**275**	mm/s	ISO 294
Injection molding hold pressure	**60**	MPa	ISO 294

Typical injection moulding processing conditions



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Maximum residual moisture content: 0.0100%

Processing Temperatures:

	ϑ Cavity	ϑ Melt	ϑ Hot Runner	ϑ Die	ϑ 4	ϑ 3	ϑ 2	ϑ 1	ϑ Feeding	ϑ Hopper
min (°C)	230	260	260	270	265	260	260	255	255	20
max (°C)	250	290	290	290	280	275	275	265	265	50

Processing Pressures:
No info

Injection speed: medium - fast

Screw speed:

Screw diameter (mm)	25	40	55
Screw speed (rpm)	80	65	50

Pre-drying conditions:
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.

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

Drying time: 4 h

Drying temperature: 130 - 140 °C

Special information:
Heating the hopper may be advantageous.

Injection Molding

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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.

Contact Information

Americas

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