

## IMPET® 340R | PET | Glass Reinforced

### Description

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.

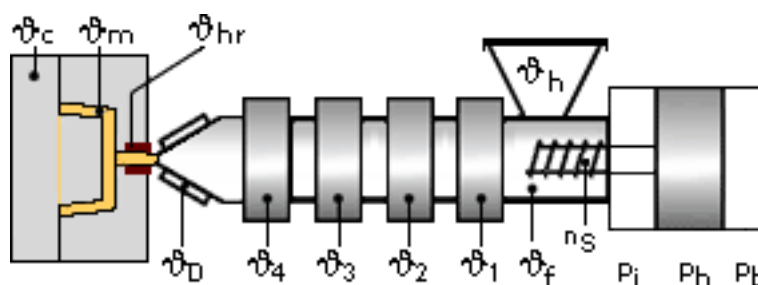
Physical properties	Value	Unit	Test Standard
Density	<b>1700</b>	kg/m <sup>3</sup>	ISO 1183
Mold shrinkage - parallel	<b>0.1-0.2</b>	%	ISO 294-4

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	<b>16800</b>	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	<b>190</b>	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	<b>2.1</b>	%	ISO 527-2/1A
Flexural modulus (23°C)	<b>15000</b>	MPa	ISO 178
Flexural strength (23°C)	<b>290</b>	MPa	ISO 178
Charpy notched impact strength @ 23°C	<b>14.5</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Notched impact strength (Izod) @ 23°C	<b>9.5</b>	kJ/m <sup>2</sup>	ISO 180/1A

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	<b>250</b>	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	<b>229</b>	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	<b>252</b>	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	<b>0.68</b>	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	<b>0.65</b>	E-4/°C	ISO 11359-2
Flammability at thickness h	<b>HB</b>	class	UL94
thickness tested (h)	<b>0.81</b>	mm	UL94

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

### Typical injection moulding processing conditions



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### Pre Drying:

#### Necessary low maximum residual moisture content: 0.01%

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**

#### Temperature:

	ϑ <sup>ϑ</sup> Manifold	ϑ <sup>ϑ</sup> Mold	ϑ <sup>ϑ</sup> Melt	ϑ <sup>ϑ</sup> Nozzle	ϑ <sup>ϑ</sup> Zone4	ϑ <sup>ϑ</sup> Zone3	ϑ <sup>ϑ</sup> Zone2	ϑ <sup>ϑ</sup> Zone1	ϑ <sup>ϑ</sup> Feed	ϑ <sup>ϑ</sup> Hopper
min (°C)	260	110	260	270	265	260	260	255	255	20
max (°C)	290	121	290	290	280	275	275	265	265	50

#### Speed:

**Injection speed: medium-fast**

## 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.

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### General Disclaimer

**NOTICE TO USERS:** Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values.

Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use.

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