

# Rynite® 815ER BK503

## THERMOPLASTIC POLYESTER RESIN

Rynite® 815ER BK503 is a 15% Glass Reinforced, Toughened, Polyethylene Terephthalate Developed for Encapsulation Applications

### Product information

Resin Identification	PET-IGF15	ISO 1043
Part Marking Code	>PET-IGF15<	ISO 11469

### Rheological properties

Melt volume-flow rate	22 cm <sup>3</sup> /10min	ISO 1133
Temperature	280 °C	
Load	5 kg	
Melt mass-flow rate	26 g/10min	ISO 1133
Melt mass-flow rate, Temperature	280 °C	
Melt mass-flow rate, Load	5 kg	
Moulding shrinkage, parallel	0.3 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.0 %	ISO 294-4, 2577

### Typical mechanical properties

Tensile modulus	4300 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	82 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	5 %	ISO 527-1/-2
Flexural modulus	3700 MPa	ISO 178
Flexural strength	140 MPa	ISO 178
Charpy notched impact strength, 23°C	11 kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 23°C	11 kJ/m <sup>2</sup>	ISO 180/1A
Poisson's ratio	0.36	

### Thermal properties

Melting temperature, 10°C/min	250 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	190 °C	ISO 75-1/-2
RTI, electrical, 0.75mm	140 °C	UL 746B
RTI, electrical, 1.5mm	140 °C	UL 746B
RTI, electrical, 3.0mm	140 °C	UL 746B
RTI, impact, 0.75mm	120 °C	UL 746B
RTI, impact, 1.5mm	120 °C	UL 746B
RTI, impact, 3.0mm	120 °C	UL 746B
RTI, strength, 0.75mm	140 °C	UL 746B
RTI, strength, 1.5mm	140 °C	UL 746B
RTI, strength, 3.0mm	140 °C	UL 746B

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### Flammability

Burning Behav. at 1.5mm nom. thickn.	HB class	IEC 60695-11-10
Thickness tested	1.5 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Burning Behav. at thickness h	HB class	IEC 60695-11-10
Thickness tested	0.81 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Glow Wire Ignition Temperature, 3.0mm	775 °C	IEC 60695-2-13
FMVSS Class	B	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80 mm/min	ISO 3795 (FMVSS 302)

### Physical/Other properties

Density	1390 kg/m <sup>3</sup>	ISO 1183
Density of melt	1170 kg/m <sup>3</sup>	

### Injection

Drying Recommended	yes
Drying Temperature	120 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.02 <sup>[1]</sup> %
Melt Temperature Optimum	285 °C
Min. melt temperature	270 °C
Max. melt temperature	290 °C
Screw tangential speed	≤0.2 m/s
Mold Temperature Optimum	95 °C
Min. mould temperature	75 °C
Max. mould temperature	95 °C
Hold pressure range	≥80 MPa
Hold pressure time	4 s/mm
Back pressure	As low as possible
Ejection temperature	170 °C

[1]: At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects.

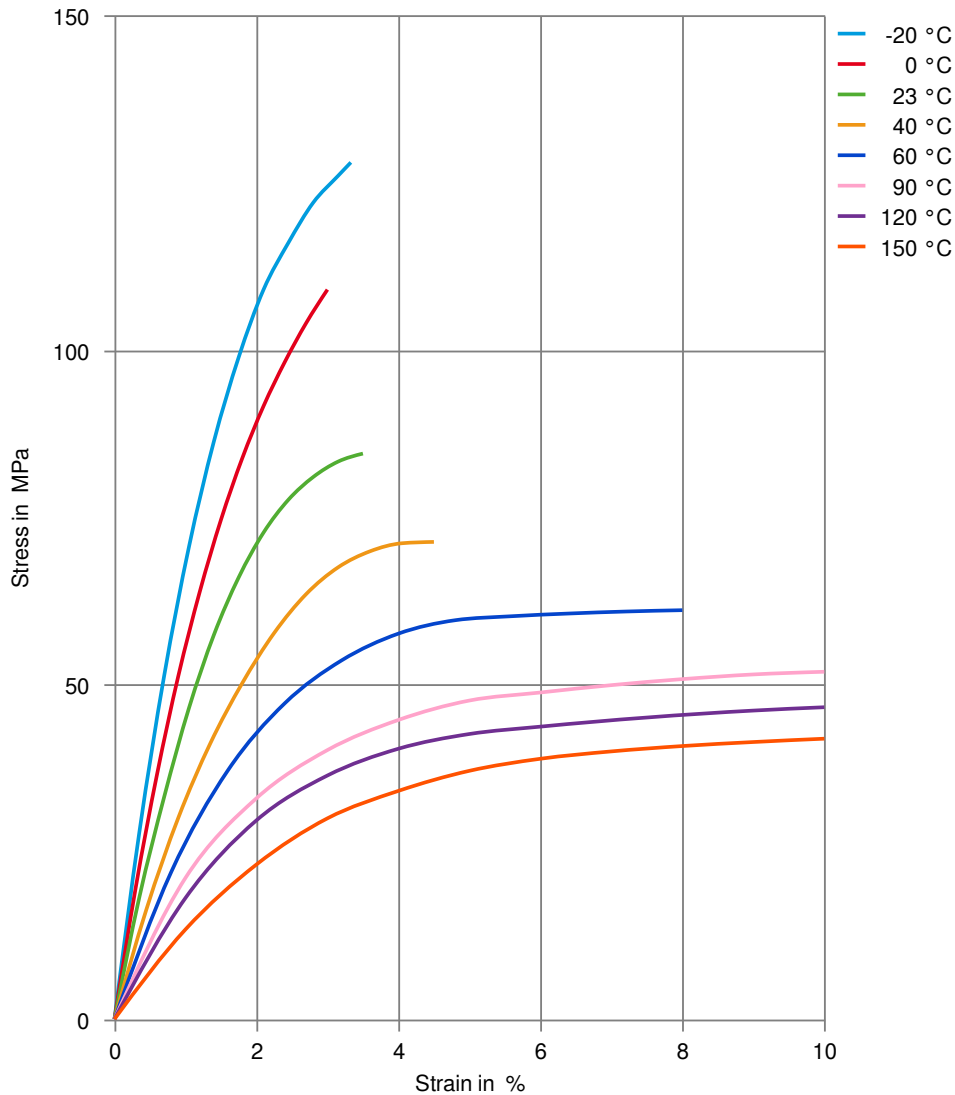
### Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	Heat stabilised or stable to heat

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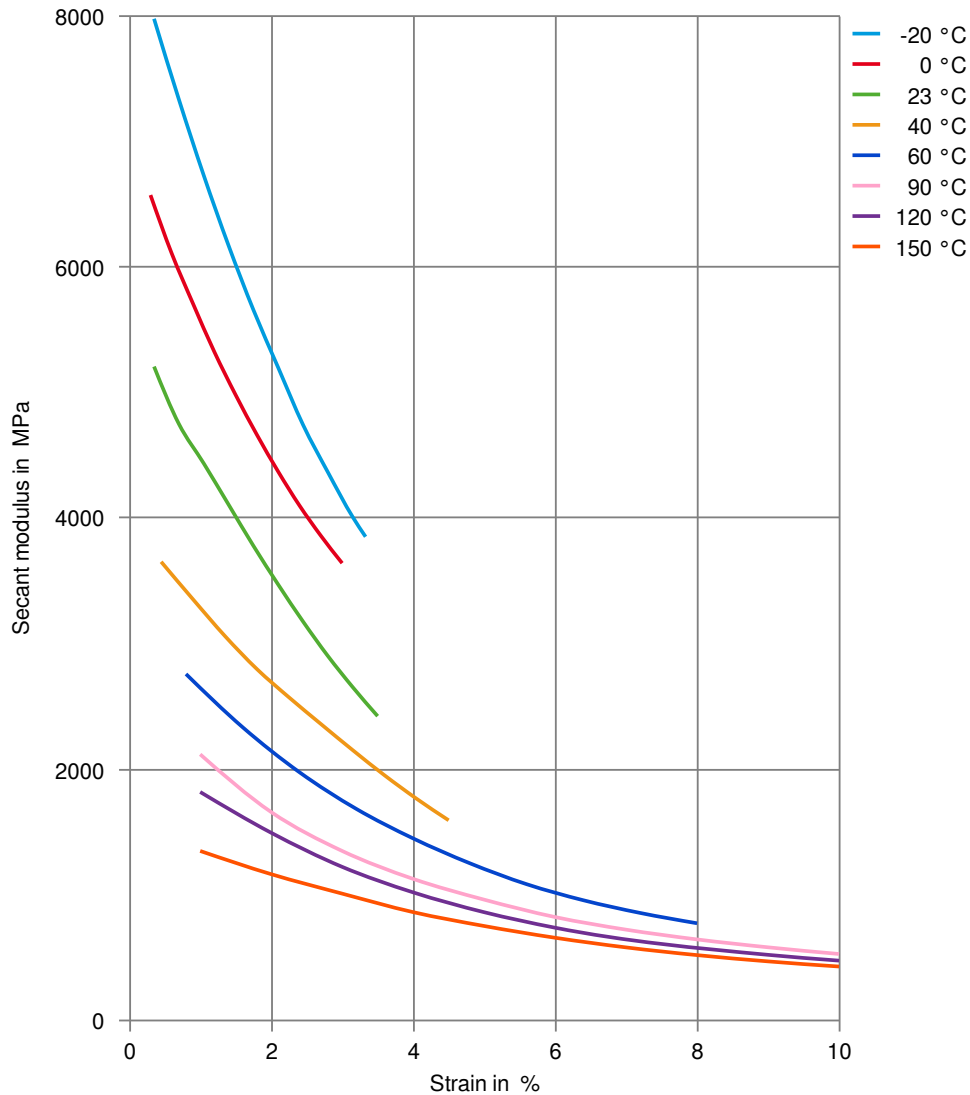
Stress-strain  
(measured on Rynite® 815ER NC010)



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## THERMOPLASTIC POLYESTER RESIN

Secant modulus-strain  
(measured on Rynite® 815ER NC010)



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