

Rynite® FR543 BK507 (PRELIMINARY)

THERMOPLASTIC POLYESTER RESIN

Rynite® FR543 BK507 is a 43% Glass Reinforced, Flame Retardant, Polyethylene Terephthalate

Product information

Resin Identification	PET- GF43FR(17)	ISO 1043
Part Marking Code	>PET-GF43FR(17)<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.2 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.8 %	ISO 294-4, 2577
Melt viscosity, @ 1000 sec-1, 250 °C	200 Pa.s	ISO 11443

Typical mechanical properties

Tensile Modulus	15600 MPa	ISO 527-1/-2
Stress at break, 5mm/min	160 MPa	ISO 527-1/-2
Strain at break, 5mm/min	1.5 %	ISO 527-1/-2
Elongation at break	1.6 %	ASTM D 638
Flexural Modulus	16500 MPa	ISO 178
Flexural Strength	275 MPa	ISO 178
Charpy notched impact strength, 23 °C	10.5 kJ/m²	ISO 179/1eA
Poisson's ratio	0.33	

Thermal properties

Melting temperature, 10 °C/min	254 °C	ISO 11357-1/-3
Glass transition temperature, 10 °C/min	90 °C	ISO 11357-1/-3
RTI, electrical, 0.75mm	155 °C	UL 746B
RTI, electrical, 1.5mm	155 °C	UL 746B
RTI, electrical, 3mm	155 °C	UL 746B
RTI, impact, 0.75mm	155 °C	UL 746B
RTI, impact, 1.5mm	155 °C	UL 746B
RTI, impact, 3mm	155 °C	UL 746B
RTI, strength, 0.75mm	155 °C	UL 746B
RTI, strength, 1.5mm	155 °C	UL 746B
RTI, strength, 3mm	155 °C	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0 class	UL 94
Thickness tested	1.5 mm	UL 94
UL recognition	yes	UL 94
Burning Behav. at thickness h	V-0 class	UL 94
Thickness tested	0.8 mm	UL 94



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UL recognition	yes	UL 94
Burning Behav. 5V at thickness h	5VA class	UL 94
Thickness tested	1.5 mm	UL 94
UL recognition	yes	UL 94
Glow Wire Flammability Index, 3mm	960 °C	IEC 60695-2-12
Glow Wire Ignition Temperature, 3mm	960 °C	IEC 60695-2-13
FMVSS Class	B	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80 mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Comparative tracking index	225	IEC 60112
Comparative tracking index	2 PLC	UL 746A

Other properties

Humidity absorption, 2mm	0.1 %	Sim. to ISO 62
Density	1790 kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	120 °C	
Drying Time, Dehumidified Dryer	4 - 6 h	
Processing Moisture Content	≤0.02 ^[1] %	
Melt Temperature Optimum	280 °C	Internal
Min. melt temperature	270 °C	
Max. melt temperature	290 °C	
Screw tangential speed	≤0.2 m/s	
Mold Temperature Optimum	110 °C	
Min. mould temperature	100 °C	
Max. mould temperature	120 ^[2] °C	
Hold pressure range	≥80 MPa	
Hold pressure time	4 s/mm	
Back pressure	As low as possible	
Ejection temperature	170 °C	Internal

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

[2]: (6mm - 1mm thickness)

Characteristics

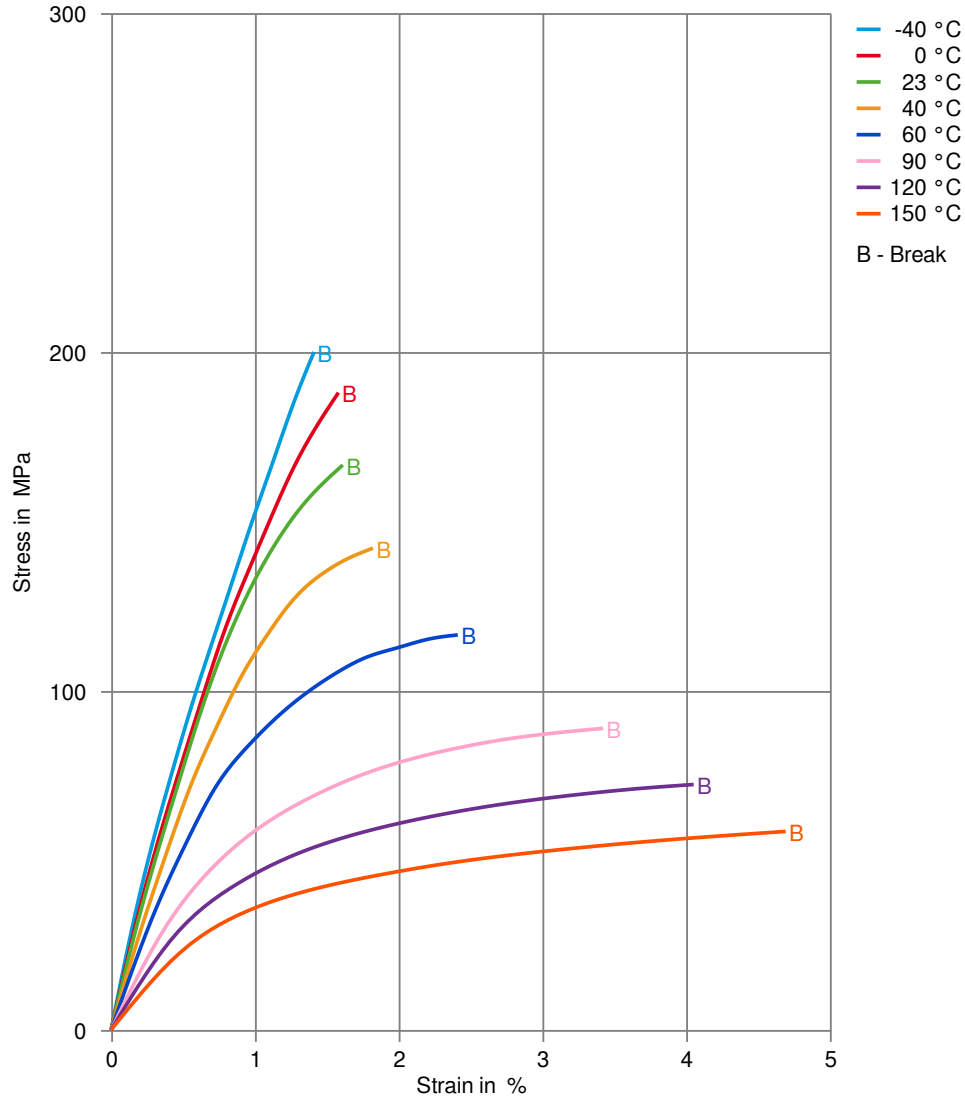
Additives Flame retardant



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Stress-strain
(measured on Rynite® FR543 NC010)



Rynite® FR543 BK507 (PRELIMINARY)

THERMOPLASTIC POLYESTER RESIN

Secant modulus-strain
(measured on Rynite® FR543 NC010)

