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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, 280°C	200	Pa.s	ISO 11443

Typical mechanical properties

Tensile modulus	15600	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	160	MPa	ISO 527-1/-2
Tensile 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	280	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, 3.0mm	155	°C	UL 746B
RTI, impact, 0.75mm	155	°C	UL 746B
RTI, impact, 1.5mm	155	°C	UL 746B
RTI, impact, 3.0mm	155	°C	UL 746B
RTI, strength, 0.75mm	155	°C	UL 746B
RTI, strength, 1.5mm	155	°C	UL 746B
RTI, strength, 3.0mm	155	°C	UL 746B

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.8	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Glow Wire Flammability Index, 3.0mm	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 3.0mm	960	°C	IEC 60695-2-13
FMVSS Class	B		ISO 3795 (FMVSS 302)

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Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Comparative tracking index	225		IEC 60112
Comparative tracking index, 23 °C	2	PLC	UL 746A

Physical/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
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	MPa
Ejection temperature	170	°C

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

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

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Flame retardant
Special characteristics	Flame retardant, Heat stabilised or stable to heat, Low Warpage

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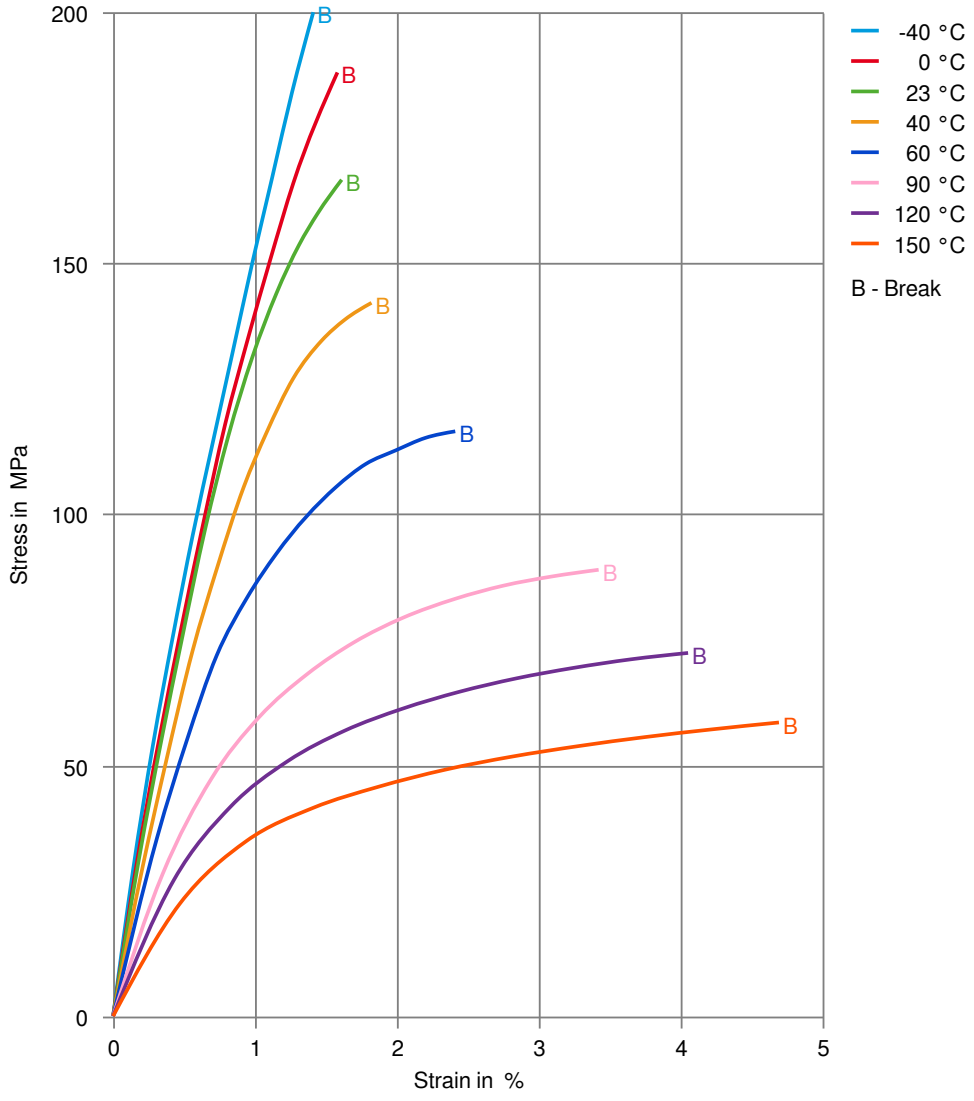
Stress-strain
(measured on Rynite® FR543 NC010)



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THERMOPLASTIC POLYESTER RESIN

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