

Rynite® FR945 BK507

THERMOPLASTIC POLYESTER RESIN

Rynite® FR945 BK507 is a 45% Glass/Mineral Reinforced, Flame Retardant, Polyethylene Terephthalate

Product information

Resin Identification	PET-(MD+GF)45FR(17)	ISO 1043
Part Marking Code	>PET-(MD+GF)45FR(17)<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.5 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.9 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	12800 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	92 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.2 %	ISO 527-1/-2
Flexural modulus	12500 MPa	ISO 178
Flexural strength	140 MPa	ISO 178
Charpy impact strength, 23°C	20 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	4 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -40°C	3 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	4 kJ/m ²	ISO 180/1A
Poisson's ratio	0.33	

Thermal properties

Melting temperature, 10°C/min	250 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	200 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	240 °C	ISO 75-1/-2
RTI, electrical, 0.75mm	150 °C	UL 746B
RTI, electrical, 1.5mm	150 °C	UL 746B
RTI, electrical, 3.0mm	150 °C	UL 746B
RTI, impact, 0.75mm	150 °C	UL 746B
RTI, impact, 1.5mm	150 °C	UL 746B
RTI, impact, 3.0mm	150 °C	UL 746B
RTI, strength, 0.75mm	150 °C	UL 746B
RTI, strength, 1.5mm	150 °C	UL 746B
RTI, strength, 3.0mm	150 °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	0.81 mm	IEC 60695-11-10
UL recognition	yes	UL 94
Burning Behav. 5V at thickness h	5VA class	IEC 60695-11-20
Thickness tested	1.5 mm	IEC 60695-11-20

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UL recognition	yes	UL 94
Glow Wire Flammability Index, 0.75mm	960 °C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	960 °C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	960 °C	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	825 °C	IEC 60695-2-13
Glow Wire Ignition Temperature, 1.5mm	825 °C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	925 °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	1850 kg/m ³	ISO 1183
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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	95 °C
Max. mould temperature	125 ^[2] °C
Hold pressure range	≥80 MPa
Hold pressure time	4 s/mm
Back pressure	As low as possible
Ejection temperature	200 °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
Additives	Flame retardant
Special characteristics	Flame retardant, Heat stabilised or stable to heat, Low Warpage

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