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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/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	4	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	3	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	4	kJ/m²	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/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	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	MPa
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