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Rynite® HR540SUV BK544

THERMOPLASTIC POLYESTER RESIN

Rynite® HR540SUV BK544 is a 40% Glass Reinforced, , Polyethylene Terephthalate Developed for Injection Moulding

Product information

Resin Identification	PET-GF40		ISO 1043
Part Marking Code	>PET-GF40<		ISO 11469

Rheological properties

Melt mass-flow rate	20	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	0.8	%	ISO 294-4, 2577
Melt viscosity , @ 1000 sec-1, 280°C	200	Pa.s	ISO 11443

Typical mechanical properties

Tensile modulus	13200	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	140	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2	%	ISO 527-1/-2
Charpy impact strength, 23°C	53	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	10	kJ/m²	ISO 179/1eA
Poisson's ratio	0.33		

Thermal properties

Melting temperature, 10°C/min	247	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	210	°C	ISO 75-1/-2
RTI, electrical, 1.5mm	75	°C	UL 746B
RTI, electrical, 3.0mm	75	°C	UL 746B
RTI, impact, 1.5mm	75	°C	UL 746B
RTI, impact, 3.0mm	75	°C	UL 746B
RTI, strength, 1.5mm	75	°C	UL 746B
RTI, strength, 3.0mm	75	°C	UL 746B

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	3	mm	IEC 60695-11-10
UL recognition	yes		UL 94
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

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Electrical properties

Volume resistivity	1.3E8	Ohm.m	IEC 62631-3-1
Surface resistivity	6.5E9	Ohm	IEC 62631-3-2
Comparative tracking index	250		IEC 60112
Electric Strength, Short Time, 2mm	19	kV/mm	IEC 60243-1

Physical/Other properties

Density	1620	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	290	°C
Min. melt temperature	280	°C
Max. melt temperature	300	°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	195	°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
Special characteristics	Light stabilised or stable to light, U.V. stabilised or stable to weather, Hydrolysis resistant

Additional information

Injection molding	When lower mold temperatures are used, the initial warpage and shrinkage will be lower, but the surface appearance will be poorer and the dimensional change may be greater when parts are subsequently heated.

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