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Rynite® 830ER BK503

THERMOPLASTIC POLYESTER RESIN

Rynite® 830ER BK503 is a 30% Glass Reinforced, Polyethylene Terephthalate Developed for Encapsulation Applications

Product information

Resin Identification	PET-IGF30		ISO 1043
Part Marking Code	>PET-IGF30<		ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	11000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	170	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.2	%	ISO 527-1/-2
Charpy impact strength, 23°C	60.9	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	9.9	kJ/m²	ISO 179/1eA
Poisson's ratio	0.34		

Thermal properties

Melting temperature, 10°C/min	250	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	225	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	247	°C	ISO 75-1/-2
RTI, electrical, 0.75mm	140	°C	UL 746B
RTI, electrical, 1.5mm	140	°C	UL 746B
RTI, electrical, 3.0mm	140	°C	UL 746B
RTI, impact, 0.75mm	140	°C	UL 746B
RTI, impact, 1.5mm	140	°C	UL 746B
RTI, impact, 3.0mm	140	°C	UL 746B
RTI, strength, 0.75mm	140	°C	UL 746B
RTI, strength, 1.5mm	140	°C	UL 746B
RTI, strength, 3.0mm	140	°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	0.85	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Glow Wire Flammability Index, 3.0mm	825	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 3.0mm	800	°C	IEC 60695-2-13
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

Relative permittivity, 100Hz	4.3		IEC 62631-2-1
Relative permittivity, 1MHz	3.9		IEC 62631-2-1
Dissipation factor, 100Hz	20	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	148	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	36	kV/mm	IEC 60243-1
Comparative tracking index	250		IEC 60112
Electric Strength, Short Time, 23°C, 2mm	23	kV/mm	IEC 60243-1

Physical/Other properties

Density	1590	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	285	°C
Min. melt temperature	280	°C
Max. melt temperature	300	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	140	°C
Min. mould temperature	120	°C
Max. mould temperature	140[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
Special characteristics	Heat stabilised or stable to heat

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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