Rynite® 530HTE BK503

THERMOPLASTIC POLYESTER RESIN

Rynite® 530HTE BK503 is a 30% glass reinforced modified polyethylene terephthalate resin with excellent high temperature dielectric properties

Product information

Resin Identification	PET-GF30	ISO 1043
Part Marking Code	>PET-GF30<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6	%	ISO 294-4, 2577
Postmoulding shrinkage, normal, 48h at 80°C	0.45	%	ISO 294-4
Postmoulding shrinkage, parallel, 48h at 80°C	0.1	%	ISO 294-4

Typical mechanical properties

Tensile Modulus	11000	MPa	ISO 527-1/-2
Stress at break	160	MPa	ISO 527-1/-2
Strain at break	1.9	%	ISO 527-1/-2
Compressive strength	230	MPa	ISO 604
Charpy impact strength, 23°C	42	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	8.9	kJ/m²	ISO 179/1eA
Hardness, Rockwell, R-scale	120	-	ISO 2039-2
Ball indentation hardness, H 961/30	221	MPa	ISO 2039-1
Poisson's ratio	0.34	-	

Thermal properties

Melting temperature, 10°C/min	252	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	230	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	251	°C	ISO 75-1/-2
Thermal conductivity solid	0.29	W/(m K)	

Flammability

Glow Wire Flammability Index, 3mm	800	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 3mm	775	°C	IEC 60695-2-13
Glow Wire Temperature, No Flame, 1mm	750	°C	IEC 60335-1
Glow Wire Temperature, No Flame, 1.5mm	750	°C	IEC 60335-1
Glow Wire Temperature, No Flame, 2mm	750	°C	IEC 60335-1
Glow Wire Temperature, No Flame, 3mm	825	°C	IEC 60335-1
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	3.8	-	IEC 62631-2-1
Dissipation factor, 100Hz	18	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	146	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	35	kV/mm	IEC 60243-1
Comparative tracking index	200	-	IEC 60112
Electric Strength, Short Time, 23°C, 2mm	23	kV/mm	IEC 60243-1

Other properties

Density	1590	kg/m³	ISO 1183
Water Absorption, Immersion 24h	0.05	%	Sim. to ISO 62

VDA Properties

Fogging, G-value (condensate)		mg	ISO 6452

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
Max. 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)

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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