Celanese
The chemistry inside innovation™

Rynite® RE15022 NC010

THERMOPLASTIC POLYESTER RESIN

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, high surface gloss and good inherent electrical properties at elevated temperature. It can be processed over a broad temperature range and has excellent flow properties.

Rynite® thermoplastic polyester resins are typically used in demanding applications in the automotive, electrical and electronics, appliances where they successfully replace metals and thermosets, as well as other thermoplastic polymers.

Rynite® RE15022 NC010 is a 36% glass reinforced modified polyethylene terephthalate resin developed for applications that need high burst strength and fast cycle performance.

Product information

Resin Identification	PET-GF36		ISO 1043
Part Marking Code	>PET-GF36<		ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.0	%	ISO 294-4, 2577
Mold Shrinkage, Flow, 3.2mm (0.125in)	0.13	%	
Mold Shrinkage, Transverse, 3.2mm (0.125in)	0.99	%	

Typical mechanical properties

Tensile modulus	14000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	200	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.4	%	ISO 527-1/-2
Charpy impact strength, 23°C	70	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	11	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	11	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	11	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	235	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	245	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	20	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	70	E-6/K	ISO 11359-1/-2

Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

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Physical/Other properties

Density	1650	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	120	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01[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	130	°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	202	°C

[1]: At levels above 0.01%, strength and toughness will decrease, even though parts may not exhibit surface defects.

[2]: (6mm - 1mm thickness)

Characteristics

Processing	Injection Moulding
Delivery form	Pellets

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Tensile Fatigue, 10Hz, R=0.1 @ mm