Rynite® RE5264 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® RE5264 NC010 is a 36% glass reinforced, modified polyethylene terephthalate resin developed for applications that need high burst strength.

Product information

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

Rheological properties

Melt mass-flow rate	9	g/10min	ISO 1133
Melt mass-flow rate, Temperature	280	°C	ISO 1133
Melt mass-flow rate, Load	2.16	kg	ISO 1133
Moulding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.9	%	ISO 294-4, 2577
Mold Shrinkage, Flow, 3.2mm (0.125in)	0.15	%	
Mold Shrinkage, Transverse, 3.2mm (0.125in)	1.05	%	
Postmoulding shrinkage, normal, 48h at 80°C	0.2	%	ISO 294-4
Postmoulding shrinkage, parallel, 48h at 80°C	0.05	%	ISO 294-4

Typical mechanical properties

Tensile Modulus	14000	MPa	ISO 527-1/-2
Stress at break	190	MPa	ISO 527-1/-2
Strain at break	2	%	ISO 527-1/-2
Flexural Modulus	12000	MPa	ISO 178
Flexural Strength	280	MPa	ISO 178
Charpy impact strength, 23°C	55	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	9.5	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	9	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	9	kJ/m²	ISO 179/1eA
Hardness, Rockwell, R-scale	120	-	ISO 2039-2
Ball indentation hardness, H 961/30	225	MPa	ISO 2039-1
Poisson's ratio	0.33	-	

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Thermal properties

Melting temperature, 10°C/min	247	°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	245	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	20	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	70	E-6/K	ISO 11359-1/-2

Flammability

Glow Wire Flammability Index, 1mm	750	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	750	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2mm	750	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3mm	850	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1mm	750	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 1.5mm	750	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 2mm	750	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3mm	850	°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	850	°C	IEC 60335-1
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Electrical properties

Electric strength	21.5	kV/mm	IEC 60243-1

Other properties

Density	1660	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	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

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Back pressure	As low as possible	MPa
Ejection temperature	170	°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

Additives	Release agent

Stress-strain

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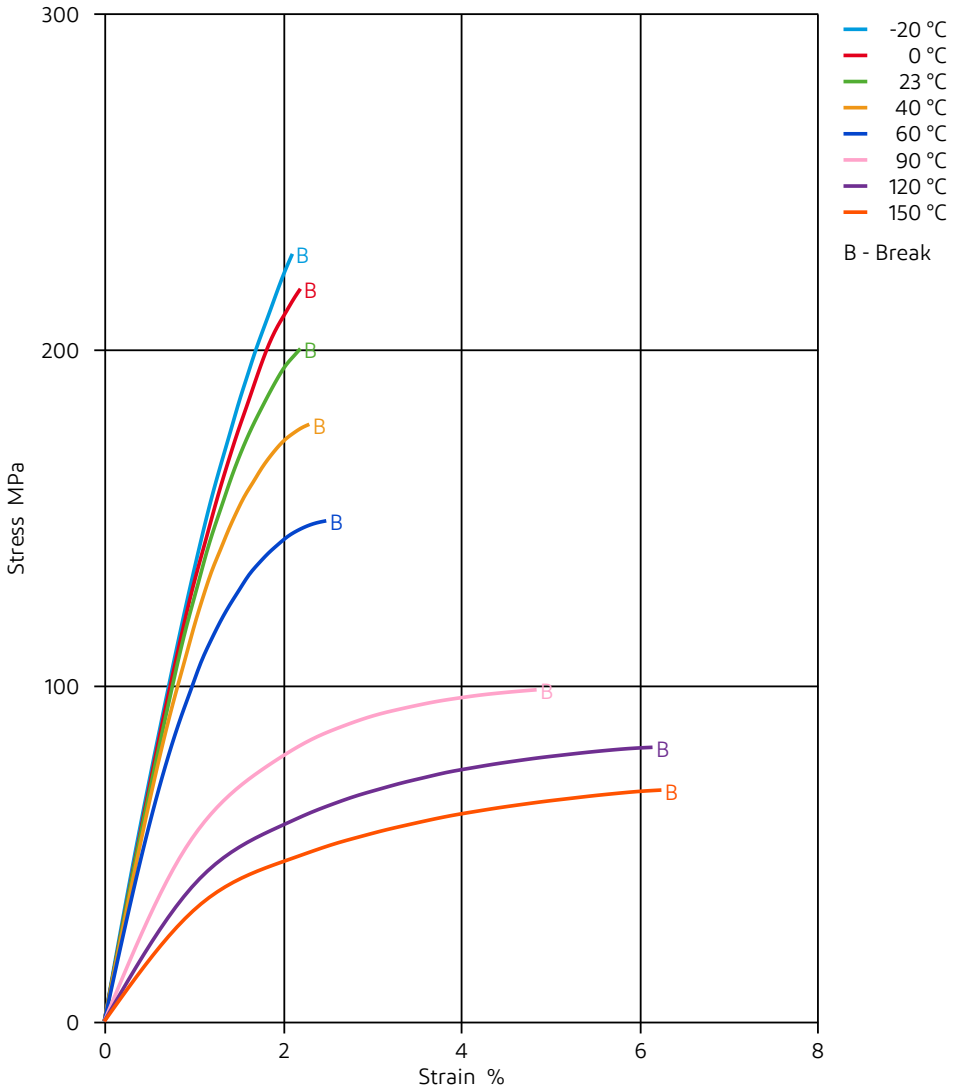

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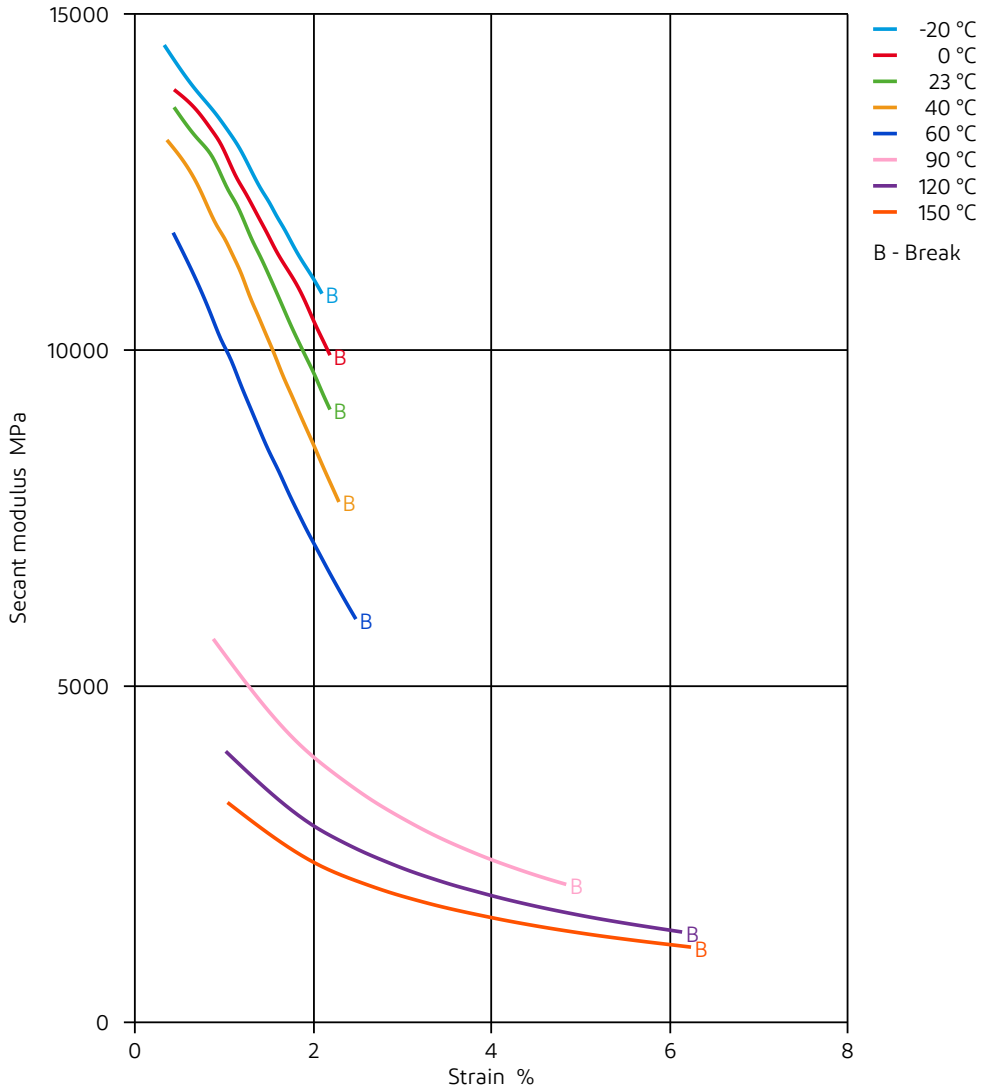
Secant modulus-strain



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