

# DuPont™ Rynite® 540SUV BK544

## THERMOPLASTIC POLYESTER RESIN

### Product Information

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® 540SUV BK544 is a 40% glass reinforced, UV stabilised, modified polyethylene terephthalate resin for injection moulding and extrusion. It has high stiffness and was developed for long-term outdoor applications.**

General information	Value	Unit	Test Standard
Resin Identification	PET-GF40	-	ISO 1043
Part Marking Code	PET-GF40	-	ISO 11469
Rheological properties	Value	Unit	Test Standard
Moulding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.9	%	ISO 294-4, 2577
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	13500	MPa	ISO 527-1/-2
Stress at break	162	MPa	ISO 527-1/-2
Strain at break	2.3	%	ISO 527-1/-2
Poisson's ratio	0.33	-	ISO 527-1/-2
Charpy impact strength, 23 °C	60	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23 °C	8.8	kJ/m <sup>2</sup>	ISO 179/1eA
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10 °C/min	249	°C	ISO 11357-1/-3
Coeff. of linear therm. expansion, parallel	17	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	75	E-6/K	ISO 11359-1/-2
RTI, electrical			UL 746B
1.5mm	75	°C	
3mm	75	°C	
RTI, impact			UL 746B
1.5mm	75	°C	
3mm	75	°C	
RTI, strength			UL 746B
1.5mm	75	°C	
3mm	75	°C	
Flammability	Value	Unit	Test Standard
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	<100	mm/min	ISO 3795 (FMVSS 302)
Other properties	Value	Unit	Test Standard
Humidity absorption, 2mm	0.15	%	Sim. to ISO 62
Water absorption, 2mm	0.6	%	Sim. to ISO 62
Density	1640	kg/m <sup>3</sup>	ISO 1183
Injection	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	≥120	°C	-
Drying Time, Dehumidified Dryer	4 - 6	h	-

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Processing Moisture Content	≤0.02 <sup>[1]</sup>	%	-
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	120	°C	-
Min. mould temperature	110	°C	-
Max. mould temperature	130 <sup>[2]</sup>	°C	-
Hold pressure range	≥80	MPa	-
Hold pressure time	4	s/mm	-
Back pressure	As low as possible		-
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	
Delivery form	• Pellets	
Special characteristics	• Light stabilised or stable to light	• U.V. stabilised or stable to weather

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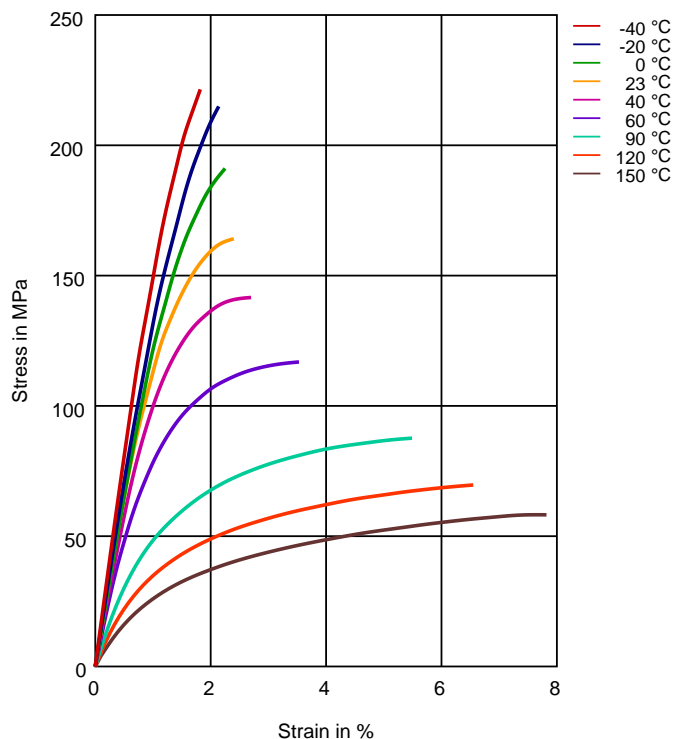


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## THERMOPLASTIC POLYESTER RESIN

Diagrams

Stress-strain



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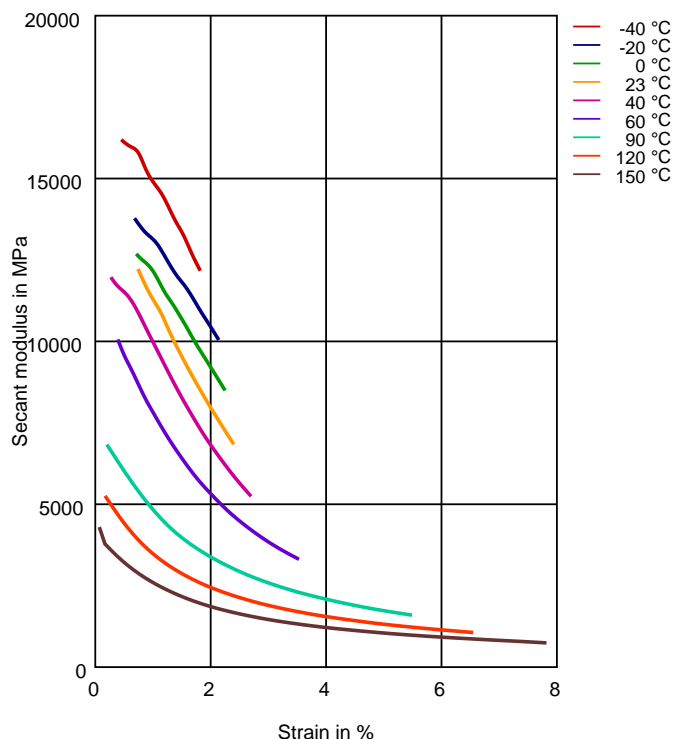
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## THERMOPLASTIC POLYESTER RESIN

### Secant modulus-strain



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrell® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23 °C unless otherwise stated.

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