# 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 stabilized, modified polyethylene terephthalate resin for injection molding 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** |
| Molding shrinkage, parallel | 0.2 | % | ISO 294-4, 2577 |
| Molding 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 |
| Charpy impact strength, 73°F | 60 | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, 73°F | 8.8 | kJ/m² | ISO 179/1eA |
| **Thermal properties** | **Value** | **Unit** | **Test Standard** |
| Melting temperature, 18°F/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 |
| 60mil | 75 | °C | |
| 120mil | 75 | °C | |
| RTI, impact | | | UL 746B |
| 60mil | 75 | °C | |
| 120mil | 75 | °C | |
| RTI, strength | | | UL 746B |
| 60mil | 75 | °C | |
| 120mil | 75 | °C | |
| **Flammability** | **Value** | **Unit** | **Test Standard** |
| Burning Behav. at 60mil 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, 80mil | 0.15 | % | Sim. to ISO 62 |
| Water absorption, 80mil | 0.6 | % | Sim. to ISO 62 |
| Density | 1640 | kg/m³ | ISO 1183 |
| **Injection** | **Value** | **Unit** | **Test Standard** |
| Drying Recommended | yes | - | - |
| Drying Temperature | 120 | °C | - |
| Drying Time, Dehumidified Dryer | 4 - 6 | h | - |
| Processing Moisture Content | ≤0.02[1] | % | - |



**To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.**

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Toll-Free (USA): 800 441-0575

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Tel: +41 22 717 51 11

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| | | | |
|---|---|---|---|
| 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. mold temperature | 110 | °C | - |
| Max. mold temperature | 130[2] | °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 Molding | |
| Delivery form | • Pellets | |
| Special characteristics | • Light stabilized or stable to light | • U.V. stabilized or stable to weather |

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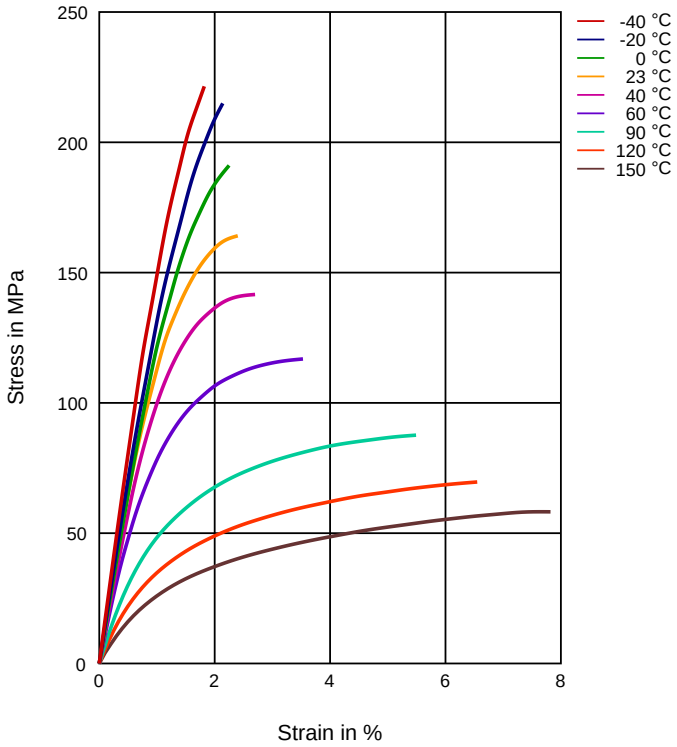
### Diagrams

#### Stress-strain



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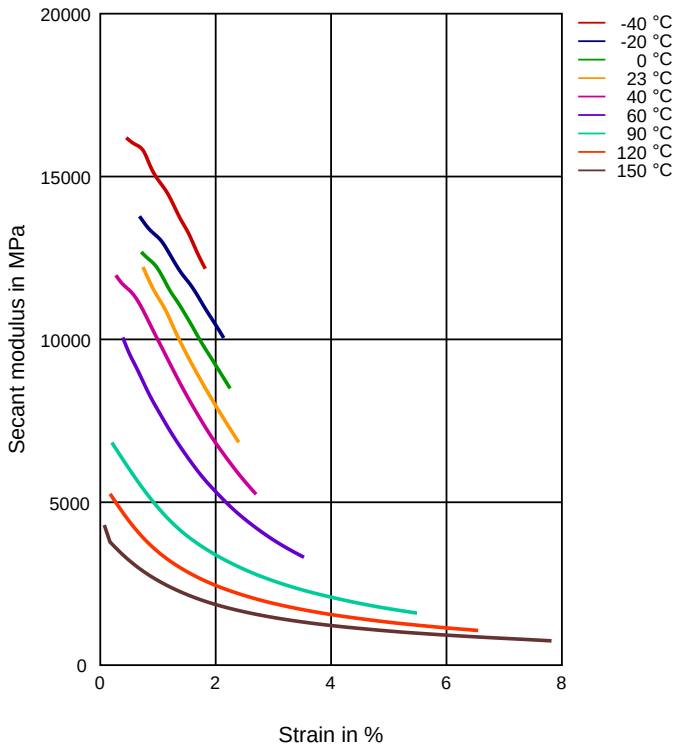
Secant modulus-strain




Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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