# DuPont™ Rynite® 940 NC010

## 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® 940 NC010 is a 40% mica/glass reinforced modified polyethylene terephthalate resin with low warpage, high stiffness and strength, and excellent electrical properties.**

| General information | Value | Unit | Test Standard |
|---|---|---|---|
| Resin Identification | PET-(GF+MD)40 | - | ISO 1043 |
| Part Marking Code | PET-(GF+MD)40 | - | ISO 11469 |
| **Rheological properties** | **Value** | **Unit** | **Test Standard** |
| Melt volume-flow rate | 10 | cm³/10min | ISO 1133 |
| Temperature | 280 | °C | ISO 1133 |
| Load | 5 | kg | ISO 1133 |
| Molding shrinkage, parallel | 0.2 | % | ISO 294-4, 2577 |
| Molding shrinkage, normal | 0.7 | % | ISO 294-4, 2577 |
| **Mechanical properties** | **Value** | **Unit** | **Test Standard** |
| Tensile Modulus | 12000 | MPa | ISO 527-1/-2 |
| Stress at break | 110 | MPa | ISO 527-1/-2 |
| Strain at break | 2 | % | ISO 527-1/-2 |
| Charpy impact strength, 73°F | 30 | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, 73°F | 7 | kJ/m² | ISO 179/1eA |
| **Thermal properties** | **Value** | **Unit** | **Test Standard** |
| Melting temperature, 18°F/min | 250 | °C | ISO 11357-1/-3 |
| Temp. of deflection under load | | | ISO 75-1/-2 |
| 260 psi | 220 | °C | |
| 65 psi | 240 | °C | |
| Coeff. of linear therm. expansion, parallel | 25 | E-6/K | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion, normal | 60 | E-6/K | ISO 11359-1/-2 |
| **Flammability** | **Value** | **Unit** | **Test Standard** |
| FMVSS Class | B | - | ISO 3795 (FMVSS 302) |
| Burning rate, Thickness 1 mm | 22 | mm/min | ISO 3795 (FMVSS 302) |
| **Electrical properties** | **Value** | **Unit** | **Test Standard** |
| Relative permittivity | | | IEC 60250 |
| 100Hz | 3.8 | - | |
| 1MHz | 3.7 | - | |
| Dissipation factor | | | IEC 60250 |
| 100Hz | 70 | E-4 | |
| 1MHz | 150 | E-4 | |
| Volume resistivity | 1E13 | Ohm*m | IEC 60093 |
| Surface resistivity | 1E14 | Ohm | IEC 60093 |
| Electric strength | 38 | kV/mm | IEC 60243-1 |
| **Other properties** | **Value** | **Unit** | **Test Standard** |
| Humidity absorption, 80mil | 0.1 | % | Sim. to ISO 62 |
| Water absorption, 80mil | 0.75 | % | 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 | - |



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

**North America**
Tel: +1 302 999-4592
Toll-Free (USA): 800 441-0575

**Asia Pacific**
Tel: +81 3 5521 8600

**Europe/Middle East/Africa**
Tel: +41 22 717 51 11

# DuPont™ Rynite® 940 NC010

## THERMOPLASTIC POLYESTER RESIN

| | | | |
|---|---|---|---|
| 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 | 110 | °C | - |
| Min. mold temperature | 100 | °C | - |
| Max. mold temperature | 120[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 | | |
| Regional Availability | • Europe | • Asia Pacific | • Near East/Africa |

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.

The information set forth herein is furnished free of charge and is based on technical data that DuPont believes to be reliable and falls within the normal range of properties. It is intended for use by persons having technical skill, at their own discretion and risk. This data should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents. Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, discuss with your DuPont customer representative and read Medical Caution H-50103-5.





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

**North America**
Tel: +1 302 999-4592
Toll-Free (USA): 800 441-0575

**Asia Pacific**
Tel: +81 3 5521 8600

**Europe/Middle East/Africa**
Tel: +41 22 717 51 11