# Rynite® PET

thermoplastic polyester resin

## Rynite® 530 NC010

Rynite® 530 NC010 is a 30% glass reinforced modified polyethylene terephthalate with outstanding balance of strength, stiffness, and toughness, excellent electrical properties, surface appearance, and chemical resistance.

| Property | Test Method | Units | Value |
|---|---|---|---|
| **Mechanical** | | | |
| Tensile Strength | ASTM D 638 | MPa (kpsi) | |
| -40C (-40F) | | | 214 (31.0) |
| 23C (73F) | | | 159 (23.0) |
| 90C (194F) | | | 83.4 (12.1) |
| 150C (300F) | | | 8.2 (8.19) |
| Elongation at Break | ASTM D 638 | % | |
| -40C (-40F) | | | 2.5 |
| 23C (73F) | | | 2.7 |
| 90C (194F) | | | 5.7 |
| 150C (300F) | | | 6.5 |
| Tensile Modulus | ASTM D 638 | MPa (kpsi) | |
| -40C (-40F) | | | 11300 (1640) |
| 23C (73F) | | | 10700 (1550) |
| 90C (194F) | | | 4540 (658) |
| 150C (300F) | | | 3090 (448) |
| Shear Strength | ASTM D 732 | MPa (kpsi) | 79.0 (11.5) |
| Poisson's Ratio | | | 0.41 |
| Flexural Modulus | ASTM D 790 | MPa (kpsi) | |
| -40C (-40F) | | | 10300 (1500) |
| 23C (73F) | | | 8960 (1300) |
| 90C (194F) | | | 3580 (520) |
| 150C (300F) | | | 2690 (390) |

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
Mechanical properties measured at 23°C (73°F) unless otherwise stated.
Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plagues or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.



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| Property | Test Method | Units | Value |
|---|---|---|---|
| **Mechanical** | | | |
| Flexural Strength | ASTM D 790 | MPa (kpsi) | |
| -40C (-40F) | | | 269 (39.0) |
| 23C (73F) | | | 235 (34.0) |
| 90C (194F) | | | 114 (16.5) |
| 150C (300F) | | | 75.8 (11.0) |
| Compressive Strength | ASTM D 695 | MPa (kpsi) | 227 (33.0) |
| Deformation Under Load | ASTM D 621 | % | |
| 23C (73F), 27.6MPa (4000psi) | | | 0.4 |
| 50C (122F), 27.6MPa (4000psi) | | | 1.6 |
| Flexural Fatigue | ASTM D 671 | MPa (kpsi) | |
| Cycles 10E6 | | | 40.7 (5.9) |
| Flexural Creep Strain | ASTM D 2990 | % | |
| 23C (73F), 27.6MPa (4000psi) | | | 0.56 |
| 60C (140F), 27.6MPa (4000psi) | | | 1.18 |
| 125C (257F), 27.6MPa (4000psi) | | | 1.65 |
| Izod Impact | ASTM D 256 | J/m (ft lb/in) | |
| -40C (-40F) | | | 96 (1.8) |
| 23C (73F) | | | 101 (1.9) |
| Unnotched Impact | ASTM D 4812 | J/m (ft lb/in) | |
| -40C (-40F) | | | 750 (14.0) |
| 23C (73F) | | | 960 (18.0) |
| **Thermal** | | | |
| Heat Deflection Temperature | ASTM D 648 | °C (°F) | |
| 0.45MPa (66psi) | | | 247 (477) |
| 1.8MPa (264psi) | | | 224 (435) |
| CLTE, Parallel | ASTM E 831 | E-4/C (E-4/F) | |
| -40 - 23C (-40 - 73F) | | | 0.22 (0.12) |
| 23 - 55C (73 - 130F) | | | 0.10 (0.06) |
| 55 - 160C (130 - 320F) | | | 0.04 (0.02) |
| CLTE, Normal | ASTM E 831 | E-4/C (E-4/F) | |
| -40 - 23C (-40 - 73F) | | | 0.67 (0.37) |
| 23 - 55C (73 - 130F) | | | 0.81 (0.45) |
| 55 - 160C (130 - 320F) | | | 1.07 (0.59) |
| Melting Point | ASTM D 3418 | °C (°F) | 254 (489) |
| Thermal Conductivity | ASTM C 177 | W/m K (Btu in/h ft2 F) | 0.29 (2.0) |

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| Property | Test Method | Units | Value |
|---|---|---|---|
| **Electrical** | | | |
| Surface Resistivity | ASTM D 257 | ohm | 1 E14 |
| Volume Resistivity | ASTM D 257 | ohm cm | 1 E15 |
| Dielectric Strength, Short Time | ASTM D 149 | kV/mm (V/mil) | |
| 23C (73F), 500 V/s, in oil, 1.6mm (0.062in) | | | 25.5 (650) |
| 23C (73F), 500 V/s, in oil, 3.2mm (0.126in) | | | 20.5 (520) |
| 95C (200F), 500 V/s, in oil, 1.6mm (0.062in) | | | 22.5 (570) |
| 95C (200F), 500 V/s, in oil, 3.2mm (0.126in) | | | 16.5 (420) |
| 150C (300F), 500 V/s, in oil, 1.6mm (0.062in) | | | 15.5 (395) |
| 150C (300F), 500 V/s, in oil, 3.2mm (0.126in) | | | 12.0 (300) |
| Dielectric Strength, Step by Step | ASTM D 149 | kV/mm (V/mil) | |
| 3.2mm (0.126in) | | | 17.5 (445) |
| Dielectric Constant | ASTM D 150 | | |
| 1E3 Hz | | | 3.6 |
| 1E6 Hz | | | 3.5 |
| Dissipation Factor | ASTM D 150 | | |
| 1E3 Hz | | | 0.005 |
| 1E6 Hz | | | 0.012 |
| Arc Resistance | ASTM D 495 | s | 120-180 |
| CTI | UL 746A | V | 250-400 |
| **Flammability** | | | |
| Rating @ Thickness | UL94 | | HB |
| Thickness Tested | UL94 | mm | 0.75 |
| Limited Oxygen Index | ASTM D 2863 | % | 20 |
| High Amperage Arc Ignition Resistance | UL 746A | arcs | 60-120 |
| High Voltage Arc Tracking Rate | | mm/min | 25-80 |
| Hot Wire Ignition | UL 746A | s | >120 |
| **Temperature Index** | | | |
| RTI, Electrical | UL 746B | °C | |
| 0.81mm | | | 140 |
| RTI, Mechanical with Impact | UL 746B | °C | |
| 0.81mm | | | 140 |
| RTI, Mechanical without Impact | UL 746B | °C | |
| 0.81mm | | | 140 |

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| Property | Test Method | Units | Value |
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| **Other** | | | |
| Specific Gravity | ASTM D 792 | | 1.56 |
| Hardness, Rockwell | ASTM D 785 | | |
| Scale M | | | 95 |
| Scale R | | | 120 |
| Coefficient of Friction | ASTM D 1894 | | |
| Self, static | | | 0.18 |
| Steel, static | | | 0.17 |
| Taber Abrasion | | mg | |
| CS-17 Wheel, 1kg, 1000 cycles | | | 30 |
| Water Absorption | ASTM D 570 | % | |
| 50%RH,23C,24h | | | 0.05 |
| Mold Shrinkage | | % | |
| Flow, 1.57mm (0.062in) | | | 0.18 |
| Flow, 3.2mm (0.126in) | | | 0.25 |
| Transverse, 1.57mm (0.062in) | | | 0.78 |
| Transverse, 3.2mm (0.126in) | | | 0.80 |
| **Processing** | | | |
| Melt Temperature Range | | °C (°F) | 280-300 (535-570) |
| Mold Temperature Range | | °C (°F) | >95 (>205) |
| Drying Time, Dehumidified Dryer | | h | 4 |
| Drying Temperature | | °C (°F) | 120 (250) |
| Processing Moisture Content | | % | <0.02 |

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