



Rynite® PET

thermoplastic polyester resin

Rynite® 555 NC010A

Rynite® 555 NC010A is a 55% glass reinforced modified polyethylene terephthalate with superior stiffness, dimensional stability, heat resistance and outstanding resistance to creep.

| Property | Test Method | Units | Value |
|---------------------|-------------|------------|--------------|
| Mechanical | | | |
| Tensile Strength | ASTM D 638 | MPa (kpsi) | |
| -40°C (-40°F) | | | 220 (31.9) |
| 23°C (73°F) | | | 189 (27.5) |
| 90°C (194°F) | | | 95.8 (13.9) |
| 150°C (300°F) | ASTM D 638 | % | 70.0 (10.0) |
| Elongation at Break | | | |
| -40°C (-40°F) | | | 1.5 |
| 23°C (73°F) | | | 1.6 |
| 90°C (194°F) | ASTM D 638 | MPa (kpsi) | 3.5 |
| 150°C (300°F) | | | 4.0 |
| Tensile Modulus | | | |
| -40°C (-40°F) | | | 20500 (2970) |
| 23°C (73°F) | | | 17900 (2590) |
| 90°C (194°F) | | | 9100 (1320) |
| 150°C (300°F) | | | 6380 (925) |

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.

ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.

Test temperatures are 23°C unless otherwise stated.

Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

Rynite® PET is a DuPont registered trademark.

010731/010731

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Product Information

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|----------------------------------|-------------|----------------|--------------|
| Mechanical | | | |
| Shear Strength | ASTM D 732 | MPa (kpsi) | 82.7 (12.0) |
| Poisson's Ratio | | | 0.37 |
| Flexural Modulus | ASTM D 790 | MPa (kpsi) | |
| -40°C (-40°F) | | | 20700 (3000) |
| 23°C (73°F) | | | 17900 (2600) |
| 90°C (194°F) | | | 9210 (1330) |
| 150°C (300°F) | | | 5730 (832) |
| Flexural Strength | ASTM D 790 | MPa (kpsi) | |
| -40°C (-40°F) | | | 345 (50.0) |
| 23°C (73°F) | | | 290 (42.0) |
| 90°C (194°F) | | | 159 (23.0) |
| 150°C (300°F) | | | 110 (16.0) |
| Compressive Strength | ASTM D 695 | MPa (kpsi) | 241 (35.0) |
| Flexural Fatigue | ASTM D 671 | MPa (kpsi) | |
| Cycles 10E6 | | | 53.8 (7.8) |
| Flexural Creep Strain | ASTM D 2990 | % | |
| 23°C (73°F), 27.6MPa (4000psi) | | | 0.19 |
| 125°C (257°F), 27.6MPa (4000psi) | | | 0.81 |
| Izod Impact | ASTM D 256 | J/m (ft lb/in) | |
| -40°C (-40°F) | | | 107 (2.0) |
| 23°C (73°F) | | | 107 (2.0) |
| Unnotched Impact | ASTM D 4812 | J/m (ft lb/in) | |
| -40°C (-40°F) | | | 585 (11.0) |
| 23°C (73°F) | | | 855 (16.0) |

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Product Information

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| Property | Test Method | Units | Value |
|---|-------------|------------------------|-------------|
| Thermal | | | |
| Heat Deflection Temperature | ASTM D 648 | °C (°F) | |
| 0.45MPa (66psi) | | | 246 (475) |
| 1.8MPa (264psi) | | | 229 (445) |
| CLTE, Parallel | ASTM E 831 | E-4/C (E-4/F) | |
| -40 - 23°C (-40 - 73°F) | | | 0.13 (0.07) |
| 23 - 55°C (73 - 130°F) | | | 0.08 (0.04) |
| 55 - 160°C (130 - 320°F) | | | 0.01 |
| CLTE, Normal | ASTM E 831 | E-4/C (E-4/F) | |
| -40 - 23°C (-40 - 73°F) | | | 0.54 (0.30) |
| 23 - 55°C (73 - 130°F) | | | 0.75 (0.42) |
| 55 - 160°C (130 - 320°F) | | | 0.95 (0.53) |
| Melting Point | ASTM D 3418 | °C (°F) | 254 (490) |
| Thermal Conductivity | ASTM C 177 | W/m K (Btu in/h ft² F) | 0.33 (2.3) |
| Electrical | | | |
| Dielectric Strength, Short Time | ASTM D 149 | kV/mm (V/mil) | |
| 23°C (73°F), 500 V/s, in oil, 1.6mm (0.062in) | | | 24.5 (620) |
| 23°C (73°F), 500 V/s, in oil, 3.2mm (0.126in) | | | 20.0 (510) |
| 95°C (200°F), 500 V/s, in oil, 1.6mm (0.062in) | | | 22.5 (570) |
| 95°C (200°F), 500 V/s, in oil, 3.2mm (0.126in) | | | 17.0 (430) |
| 150°C (300°F), 500 V/s, in oil, 1.6mm (0.062in) | | | 16.5 (420) |
| 150°C (300°F), 500 V/s, in oil, 3.2mm (0.126in) | | | 12.5 (320) |
| Arc Resistance | ASTM D 495 | s | 120-180 |
| CTI | UL 746A | V | 175-250 |
| Flammability | | | |
| Other Thickness Rating | UL94 | | HB |
| Other Thickness Tested | UL94 | mm | 0.75 |
| High Amperage Arc Ignition Resistance | UL 746A | arcs | 60-120 |
| High Voltage Arc Tracking Rate | | mm/min | 10-25 |
| Hot Wire Ignition | UL 746A | s | >120 |

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|--|-------------|---------|-------------------|
| Temperature Index | | | |
| RTI, Electrical 0.81mm | UL 746B | °C | 140 |
| RTI, Mechanical with Impact 0.81mm | UL 746B | °C | 140 |
| RTI, Mechanical without Impact 0.81mm | UL 746B | °C | 140 |
| Other | | | |
| Specific Gravity | ASTM D 792 | | 1.81 |
| Hardness, Rockwell Scale M | ASTM D 785 | | 100 |
| Scale R | | | 120 |
| Coefficient of Friction | ASTM D 1894 | | |
| Self, static | | | 0.27 |
| Steel, static | | | 0.18 |
| Water Absorption 50%RH,23°C,24h | ASTM D 570 | % | 0.04 |
| Mold Shrinkage | | % | |
| Flow, 1.57mm (0.062in) | | | 0.13 |
| Flow, 3.2mm (0.126in) | | | 0.20 |
| Transverse, 1.57mm (0.062in) | | | 0.66 |
| Transverse, 3.2mm (0.126in) | | | 0.70 |
| 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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