

DuPont Performance Polymers Minlon® 11C140 NC010 PA66-IMD40

Categories: [Polymer](#); [Thermoplastic](#); [Nylon](#); [Nylon 66](#); [Nylon 66, 40% Mineral Filled](#)

Material Notes: 40% Mineral Reinforced Polyamide 66

Information provided by DuPont Performance Polymers

Vendors:



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| Physical Properties | Metric | English | Comments |
|-----------------------------|--|---|------------------------------|
| Density | 1.45 g/cc | 0.0524 lb/in ³ | DAM; ISO 1183 |
| | 1.27 g/cc @Temperature 295 °C | 0.0459 lb/in ³ @Temperature 563 °F | Melt |
| Water Absorption | 5.70 % @Thickness 2.00 mm | 5.70 % @Thickness 0.0787 in | DAM; Sim. to ISO 62 |
| Moisture Absorption | 1.80 % @Thickness 2.00 mm | 1.80 % @Thickness 0.0787 in | DAM; Sim. to ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0140 cm/cm | 0.0140 in/in | DAM; ISO 294-4, 2577 |
| | 0.0140 cm/cm | 0.0140 in/in | DAM; ISO 294-4, 2577 |
| Mechanical Properties | Metric | English | Comments |
| Hardness, Rockwell M | 86.0 | 86.0 | DAM; ISO 2039-2 |
| Hardness, Rockwell R | 120 | 120 | DAM; ISO 2039-2 |
| Tensile Strength at Break | 60.0 MPa | 8700 psi | 50%RH; ISO 527-1/-2 |
| | 89.0 MPa | 12900 psi | DAM; ISO 527-1/-2 |
| Elongation at Break | 10.0 % | 10.0 % | DAM; ISO 527-1/-2 |
| | 24.0 % | 24.0 % | 50%RH; ISO 527-1/-2 |
| Tensile Modulus | 2.50 GPa | 363 ksi | 50%RH; ISO 527-1/-2 |
| | 5.80 GPa | 841 ksi | DAM; ISO 527-1/-2 |
| Shear Modulus | >= 0.0420 GPa @Temperature 250 °C | >= 6.09 ksi @Temperature 482 °F | Dynamic; DAM; ISO 11403-1,-2 |
| | >= 0.203 GPa @Temperature 200 °C | >= 29.4 ksi @Temperature 392 °F | Dynamic; DAM; ISO 11403-1,-2 |
| | >= 0.292 GPa @Temperature 150 °C | >= 42.4 ksi @Temperature 302 °F | Dynamic; DAM; ISO 11403-1,-2 |
| | >= 0.379 GPa @Temperature 100 °C | >= 55.0 ksi @Temperature 212 °F | Dynamic; DAM; ISO 11403-1,-2 |
| | >= 0.658 GPa @Temperature 60.0 °C | >= 95.4 ksi @Temperature 140 °F | Dynamic; DAM; ISO 11403-1,-2 |
| | >= 1.91 GPa @Temperature 20.0 °C | >= 277 ksi @Temperature 68.0 °F | Dynamic; DAM; ISO 11403-1,-2 |
| | >= 2.10 GPa @Temperature -10.0 °C | >= 305 ksi @Temperature 14.0 °F | Dynamic; DAM; ISO 11403-1,-2 |
| | >= 2.27 GPa @Temperature -50.0 °C | >= 329 ksi @Temperature -58.0 °F | Dynamic; DAM; ISO 11403-1,-2 |
| Izod Impact, Notched (ISO) | 4.00 kJ/m ² @Temperature -30.0 °C | 1.90 ft-lb/in ² @Temperature -22.0 °F | 50%RH; ISO 180/1A |
| | 4.00 kJ/m ² @Temperature -40.0 °C | 1.90 ft-lb/in ² @Temperature -40.0 °F | DAM; ISO 180/1A |
| | 4.50 kJ/m ² @Temperature -30.0 °C | 2.14 ft-lb/in ² @Temperature -22.0 °F | DAM; ISO 180/1A |
| | 5.50 kJ/m ² @Temperature 23.0 °C | 2.62 ft-lb/in ² @Temperature 73.4 °F | DAM; ISO 180/1A |
| | 9.00 kJ/m ² @Temperature 23.0 °C | 4.28 ft-lb/in ² @Temperature 73.4 °F | 50%RH; ISO 180/1A |
| Charpy Impact Unnotched | 8.00 J/cm ² @Temperature -30.0 °C | 38.1 ft-lb/in ² @Temperature -22.0 °F | 50%RH; ISO 179/1eU |
| | 8.00 J/cm ² @Temperature -30.0 °C | 38.1 ft-lb/in ² @Temperature -22.0 °F | DAM; ISO 179/1eU |
| | 13.0 J/cm ² @Temperature 23.0 °C | 61.9 ft-lb/in ² @Temperature 73.4 °F | DAM; ISO 179/1eU |
| | NB @Temperature 23.0 °C | NB @Temperature 73.4 °F | 50%RH; ISO 179/1eU |
| Charpy Impact, Notched | 0.400 J/cm ² @Temperature -30.0 °C | 1.90 ft-lb/in ² @Temperature -22.0 °F | 50%RH; ISO 179/1eA |

| | | | |
|-----------------------------------|--|---|--------------------|
| | 0.500 J/cm ² @Temperature -30.0 °C | 2.38 ft-lb/in ² @Temperature -22.0 °F | DAM; ISO 179/1eA |
| | 0.600 J/cm ² @Temperature 23.0 °C | 2.86 ft-lb/in ² @Temperature 73.4 °F | DAM; ISO 179/1eA |
| | 0.900 J/cm ² @Temperature 23.0 °C | 4.28 ft-lb/in ² @Temperature 73.4 °F | 50%RH; ISO 179/1eA |
| Tensile Creep Modulus, 1 hour | 2170 MPa | 315000 psi | 50%RH; ISO 899-1 |
| Tensile Creep Modulus, 1000 hours | 1400 MPa | 203000 psi | 50%RH; ISO 899-1 |

Electrical Properties

| | Metric | English | Comments |
|---|---------------------------------|---------------------------------|------------------------|
| Volume Resistivity | 1.00e+11 ohm-cm | 1.00e+11 ohm-cm | 50%RH; IEC 60093 |
| Surface Resistance | 1.00e+14 ohm | 1.00e+14 ohm | 50%RH; IEC 60093 |
| Dielectric Constant  | 3.60 @Frequency 1.00e+6 Hz | 3.60 @Frequency 1.00e+6 Hz | DAM; IEC 60250 |
| | 4.30 @Frequency 100 Hz | 4.30 @Frequency 100 Hz | DAM; IEC 60250 |
| | 4.50 @Frequency 1.00e+6 Hz | 4.50 @Frequency 1.00e+6 Hz | 50%RH; IEC 60250 |
| | 12.6 @Frequency 100 Hz | 12.6 @Frequency 100 Hz | 50%RH; IEC 60250 |
| | Dielectric Strength | 27.0 kV/mm 36.0 kV/mm | 686 kV/in 914 kV/in |
| Dissipation Factor  | 0.0120 @Frequency 100 Hz | 0.0120 @Frequency 100 Hz | DAM; IEC 60250 |
| | 0.0240 @Frequency 1.00e+6 Hz | 0.0240 @Frequency 1.00e+6 Hz | DAM; IEC 60250 |
| | 0.0750 @Frequency 1.00e+6 Hz | 0.0750 @Frequency 1.00e+6 Hz | 50%RH; IEC 60250 |
| | 0.440 @Frequency 100 Hz | 0.440 @Frequency 100 Hz | 50%RH; IEC 60250 |
| | Comparative Tracking Index | 550 V | 550 V |

Thermal Properties

| | Metric | English | Comments |
|--|---------------------------|------------------------------------|------------------------------|
| CTE, linear, Parallel to Flow | 85.0 µm/m-°C | 47.2 µin/in-°F | DAM; ISO 11359-1/2 |
| CTE, linear, Transverse to Flow | 85.0 µm/m-°C | 47.2 µin/in-°F | DAM; ISO 11359-1/2 |
| Specific Heat Capacity | 1.90 J/g-°C | 0.454 BTU/lb-°F | melt |
| Thermal Conductivity | 0.270 W/m-K | 1.87 BTU-in/hr-ft ² -°F | Melt |
| Melting Point | 256 °C | 493 °F | 10°C/min; DAM; ISO 11357-1/3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 220 °C | 428 °F | DAM; ISO 75-1/2 |
| Deflection Temperature at 1.8 MPa (264 psi) | 110 °C | 230 °F | DAM; ISO 75-1/2 |
| Vicat Softening Point | 235 °C | 455 °F | 50°C/h, 50N; DAM; ISO 306 |
| Flammability, UL94  | HB @Thickness 1.50 mm | HB @Thickness 0.0591 in | DAM; IEC 60695-11-10 |
| | HB @Thickness 0.810 mm | HB @Thickness 0.0319 in | DAM; IEC 60695-11-10 |

Processing Properties

| | Metric | English | Comments |
|----------------------|------------------------|------------------------|----------|
| Melt Temperature | >= 285 °C | >= 545 °F | |
| | 295 °C | 563 °F | Optimum |
| | <= 305 °C | <= 581 °F | |
| Mold Temperature | >= 70.0 °C | >= 158 °F | |
| | 100 °C | 212 °F | Optimum |
| | <= 120 °C | <= 248 °F | |
| Ejection Temperature | 210 °C | 410 °F | |
| Drying Temperature | 80.0 °C | 176 °F | |
| | @Time 7200 - 14400 sec | @Time 2.00 - 4.00 hour | |
| Moisture Content | 0.200 % | 0.200 % | |
| Hold Pressure | 50.0 - 100 MPa | 7250 - 14500 psi | |

Descriptive Properties

| Additive | | Release agent |
|--|--|---------------|
| Delivery form | | Pellets |
| Drying Recommended | | yes |
| Eff. thermal diffusivity (m ² /s) | | 1.30E-07 |
| Emission of organic compounds (µgC/g) | | 4.6 |
| Fogging (mg) | | 0.1 |
| Hold pressure time | | 3 s/mm |
| Max. screw tangential speed (m/s) | | 0.2 |
| Odor Class | | 3.5 |
| Part Marking Code | | >PA66-IMD40< |
| | | ISO 11469 |

| | | |
|-------------------------|-----------------------------------|----------|
| Processing | Injection Molding | |
| Regional Availability | Europe | |
| | Near East/Africa | |
| Resin Identification | PA66-IMD40 | ISO 1043 |
| Special characteristics | Heat stabilized or stable to heat | |

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.