

DuPont Performance Polymers Minlon® 11C40 BKB086 Nylon 66 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 40% Mineral Filled

Material Notes:

Minlon® 11C40 BKB086 is a 40% mineral reinforced, heat stabilized, black polyamide 66 resin for injection molding. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Minlon-11C40-BKB086-Nylon-66-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.47 g/cc	1.47 g/cc	DAM; ASTM D792
Density	1.47 g/cc	0.0531 lb/in ³	DAM; ISO 1183
Filler Content	40 %	40 %	DAM
Water Absorption	1.1 % @Temperature 23.0 °C	1.1 % @Temperature 73.4 °F	Immersion 24h; DAM; ISO 62, Similar to
Linear Mold Shrinkage	0.0090 cm/cm @Thickness 1.60 mm	0.0090 in/in @Thickness 0.0630 in	Flow; DAM
	0.0090 cm/cm @Thickness 3.20 mm	0.0090 in/in @Thickness 0.126 in	Flow; DAM
	0.0090 cm/cm @Thickness 1.60 mm	0.0090 in/in @Thickness 0.0630 in	Transverse; DAM
Linear Mold Shrinkage, Transverse	0.0090 cm/cm @Thickness 3.20 mm	0.0090 in/in @Thickness 0.126 in	Transverse; DAM
	0.014 cm/cm @Thickness 6.40 mm	0.014 in/in @Thickness 0.252 in	Flow; DAM
Linear Mold Shrinkage, Flow	0.014 cm/cm @Thickness 6.40 mm	0.014 in/in @Thickness 0.252 in	Transverse; DAM
	0.0090 cm/cm @Thickness 2.00 mm	0.0090 in/in @Thickness 0.0787 in	DAM; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0090 cm/cm @Thickness 2.00 mm	0.0090 in/in @Thickness 0.0787 in	DAM; ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	86.0 MPa	12500 psi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength	85.0 MPa	12300 psi	DAM; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	10 %	10 %	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	15 %	15 %	DAM; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	5.80 GPa	841 ksi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	5.24 GPa	760 ksi	DAM; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.30 GPa	769 ksi	DAM; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	DAM; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	16.0 J/cm	30.0 ft-lb/in	DAM; ASTM D4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	DAM; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	6.00 kJ/m ²	2.86 ft-lb/in ²	DAM; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	95.0 kJ/m ²	45.2 ft-lb/in ²	DAM; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	18.0 J/cm ²	85.7 ft-lb/in ²	DAM; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.300 J/cm ²	1.43 ft-lb/in ²	DAM; ISO 179/1eA
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	DAM; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	500 $\mu\text{m}/\text{m}\cdot\text{°C}$	278 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ASTM E 831
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	500 $\mu\text{m}/\text{m}\cdot\text{°C}$	278 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	DAM; ASTM E 831
	500 $\mu\text{m}/\text{m}\cdot\text{°C}$	278 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ASTM E 831
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	
	500 $\mu\text{m}/\text{m}\cdot\text{°C}$	278 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	500 $\mu\text{m}/\text{m}\cdot\text{°C}$	278 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	DAM; ISO 11359-1/-2
	500 $\mu\text{m}/\text{m}\cdot\text{°C}$	278 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ISO 11359-1/-2
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	
CTE, linear, Transverse to Flow	53.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	29.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ASTM E 831
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	53.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	29.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	65.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	36.1 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ASTM E 831
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	65.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	36.1 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	98.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	54.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	DAM; ASTM E 831
	98.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	54.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	DAM; ISO 11359-1/-2
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	

Thermal Properties	Metric	English	Comments
	258 °C	496 °F	DAM; ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	210 °C	410 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	90.0 °C	194 °F	DAM; ISO 75-1/-2
	90.0 °C	194 °F	DAM; ASTM D648
UL RTI, Electrical	65.0 °C @Thickness 0.810 mm	149 °F @Thickness 0.0319 in	DAM; UL 746B
	65.0 °C @Thickness 1.50 mm	149 °F @Thickness 0.0591 in	DAM; UL 746B
UL RTI, Mechanical with Impact	65.0 °C @Thickness 0.810 mm	149 °F @Thickness 0.0319 in	DAM; UL 746B
	65.0 °C @Thickness 1.50 mm	149 °F @Thickness 0.0591 in	DAM; UL 746B
UL RTI, Mechanical without Impact	65.0 °C @Thickness 1.50 mm	149 °F @Thickness 0.0591 in	DAM; UL 746B
	65.0 °C @Thickness 0.810 mm	149 °F @Thickness 0.0319 in	DAM; UL 746B
Flammability, UL94	HB @Thickness 0.810 mm	HB @Thickness 0.0319 in	DAM; IEC 60695-11-10
	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	DAM; IEC 60695-11-10
	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	DAM; UL94
	HB @Thickness 0.810 mm	HB @Thickness 0.0319 in	DAM; UL94

Processing Properties	Metric	English	Comments
Melt Temperature	295 °C	563 °F	DAM; Optimum
	285 - 305 °C	545 - 581 °F	DAM
Mold Temperature	70.0 - 120 °C	158 - 248 °F	DAM

Processing Properties	Metric	English	Comments
Drying Temperature	80.0 °C	176 °F	DAM
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	DAM
Moisture Content	<= 0.20 %	<= 0.20 %	DAM

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	DAM
Appearance	Black Color	DAM
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM
Features	Heat Resistance, Good	DAM
	Heat Resistance, Good	DAM
	Warpage, Low	DAM
Filler	Mineral filler	DAM
Forms	Pellets	DAM
Generic	Nylon 66	DAM
Heat Stabilized	Yes	DAM
Material Status	Current	DAM
Part Marking Code	>PA66-IMD40<	ISO 11469; DAM
Polymer Family	Polyamide	DAM
Polymer Type	PA66	DAM
Processing Method	Injection Molding	DAM
Product Category	Low Warp Resins	DAM
	Mineral Reinforced Resins	DAM
Resin Identification	PA66-IMD40	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM
Ultrasonic Weldable	Yes	DAM
Uses	Appliance Components	DAM
	Automotive Applications	DAM

Descriptive Properties	Gears Value	DAM Comments
	Industrial Applications	DAM

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