

## DuPont Performance Polymers Minlon® FE6190 BK086 Nylon 66

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Glass/Mineral Filled

### Material Notes:

Minlon® FE6190 BK086 is a 36% mineral/glass reinforced, heat stabilized, black polyamide 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-FE6190-BK086-Nylon-66.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Minlon-FE6190-BK086-Nylon-66.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	DAM; ASTM D792
Density	1.42 g/cc	0.0513 lb/in <sup>3</sup>	DAM; ISO 1183
Filler Content	36 %	36 %	DAM
Linear Mold Shrinkage	0.0020 cm/cm	0.0020 in/in	Flow; DAM
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	0.0040 cm/cm	0.0040 in/in	
	@Thickness 6.40 mm	@Thickness 0.252 in	Flow; DAM
	0.0040 cm/cm	0.0040 in/in	Flow; DAM
	@Thickness 3.20 mm	@Thickness 0.126 in	
	0.0080 cm/cm	0.0080 in/in	Transverse; DAM
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	0.0090 cm/cm	0.0090 in/in	Transverse; DAM
	@Thickness 3.20 mm	@Thickness 0.126 in	
	0.010 cm/cm	0.010 in/in	Transverse; DAM
	@Thickness 6.40 mm	@Thickness 0.252 in	
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	DAM; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	DAM; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	75.0 MPa	10900 psi	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	110 MPa Metric	16000 psi English	Comments <sup>27</sup>
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength	105 MPa	15200 psi	DAM; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	2.2 %	2.2 %	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.5 %	2.5 %	DAM; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.5 %	3.5 %	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	6.20 GPa	899 ksi	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	9.00 GPa	1310 ksi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	159 MPa	23100 psi	DAM; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	6.90 GPa	1000 ksi	DAM; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	8.00 GPa	1160 ksi	DAM; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	0.430 J/cm	0.806 ft-lb/in	DAM; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.530 J/cm	0.993 ft-lb/in	50%RH; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	4.80 J/cm	8.99 ft-lb/in	DAM; ASTM D4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	4.00 kJ/m <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	DAM; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	5.00 kJ/m <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	DAM; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.250 J/cm <sup>2</sup>	1.19 ft-lb/in <sup>2</sup>	

Charpy Impact, Notched Mechanical Properties	Metric @ Temperature -40.0 °C	English @ Temperature -40.0 °F	DAM; ISO 179/1eA Comments
	0.400 J/cm <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	DAM; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	500 µm/m-°C	278 µin/in-°F	DAM; ASTM E 831
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	500 µm/m-°C	278 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	81.0 µm/m-°C	45.0 µin/in-°F	DAM; ASTM E 831
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	81.0 µm/m-°C	45.0 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
Melting Point	263 °C	505 °F	10°C/min; DAM; ISO 11357-1/-3
	263 °C	505 °F	DAM; ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	252 °C	486 °F	DAM; ASTM D648
	255 °C	491 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	235 °C	455 °F	DAM; ISO 75-1/-2
	235 °C	455 °F	DAM; ASTM D648
UL RTI, Electrical	65.0 °C	149 °F	DAM; UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
UL RTI, Mechanical with Impact	65.0 °C	149 °F	DAM; UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
UL RTI, Mechanical without Impact	65.0 °C	149 °F	DAM; UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
Flammability, UL94	HB	HB	DAM; IEC 60695-11-10
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	DAM; UL94

Thermal Properties	@Thickness 0.750 mm Metric	@Thickness 0.0295 in English	Comments
<b>Processing Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
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
	100 °C	212 °F	DAM; optimum
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
Appearance	Black Color	DAM
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM
Filler	Glass/Mineral	DAM
Forms	Pellets	DAM
Generic	Nylon 66	DAM
Material Status	Current	DAM
Part Marking Code	>PA66-I(MD+GF)36<	ISO 11469; DAM
Polymer Family	Polyamide	DAM
Polymer Type	PA66	DAM
Processing Method	Injection Molding	DAM
Product Category	Glass/Mineral Reinforced Resins	DAM
	Low Warp Resins	DAM
Resin Identification	PA66-I(MD+GF)36	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM

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