

DuPont Performance Polymers Crastin® S620F20 NC010 Polybutylene Terephthalate (PBT) (Unverified Data**)&

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

Unreinforced Medium Viscosity Polybutylene Terephthalate Crastin S620F20 NC010 is an unreinforced nucleated lubricated medium viscosity polybutylene terephthalate resin for fast injection molding. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Crastin-S620F20-NC010-Polybutylene-Terephthalate-PBT-nbspUnverified-Datal.php

Physical Properties	Metric	English	Comments
Density	1.11 g/cc	0.0401 lb/in ³	
	1.31 g/cc	0.0473 lb/in ³	ISO 1183
Water Absorption	0.40 %	0.40 %	Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Moisture Absorption	0.200 %	0.200 %	Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Viscosity	92000 cP	92000 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 260 °C	@Shear Rate 5000 1/s, Temperature 500 °F	
	105000 cP	105000 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 250 °C	@Shear Rate 5000 1/s, Temperature 482 °F	
	121000 cP	121000 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 240 °C	@Shear Rate 5000 1/s, Temperature 464 °F	
	207000 cP	207000 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 260 °C	@Shear Rate 500 1/s, Temperature 500 °F	
	244000 cP	244000 cP	ISO 11403-1 -2
@Shear Rate 500 1/s, Temperature 250 °C	@Shear Rate 500 1/s, Temperature 482 °F		
289000 cP	289000 cP	ISO 11403-1 -2	
@Shear Rate 500 1/s, Temperature 240 °C	@Shear Rate 500 1/s, Temperature 464 °F		
Viscosity Test	130 cm ³ /g	130 cm ³ /g	ISO 307 1157 1628

Physical Properties	Metric	English	Comments
Linear Mold Shrinkage, Transverse	0.016 cm/cm	0.016 in/in	ISO 294-4 2577
Melt Flow	19.1 g/10 min @Load 2.16 kg, Temperature 250 °C	19.1 g/10 min @Load 4.76 lb, Temperature 482 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Stress	8.62 MPa @Strain 0.320 %, Temperature 23.0 °C	1250 psi @Strain 0.320 %, Temperature 73.4 °F	ISO 11403-1 -2
	10.61 MPa @Strain 2.43 %, Temperature 90.0 °C	1539 psi @Strain 2.43 %, Temperature 194 °F	ISO 11403-1 -2
	20.07 MPa @Strain 1.69 %, Temperature 40.0 °C	2911 psi @Strain 1.69 %, Temperature 104 °F	ISO 11403-1 -2
	22.69 MPa @Strain 9.30 %, Temperature 90.0 °C	3291 psi @Strain 9.30 %, Temperature 194 °F	ISO 11403-1 -2
	25.75 MPa @Strain 15.89 %, Temperature 90.0 °C	3735 psi @Strain 15.89 %, Temperature 194 °F	ISO 11403-1 -2
	26.61 MPa @Strain 22.76 %, Temperature 90.0 °C	3859 psi @Strain 22.76 %, Temperature 194 °F	ISO 11403-1 -2
	36.67 MPa @Strain 6.70 %, Temperature 40.0 °C	5319 psi @Strain 6.70 %, Temperature 104 °F	ISO 11403-1 -2
	39.4 MPa @Strain 1.59 %, Temperature 23.0 °C	5710 psi @Strain 1.59 %, Temperature 73.4 °F	ISO 11403-1 -2
	41.23 MPa @Strain 11.68 %, Temperature 40.0 °C	5980 psi @Strain 11.68 %, Temperature 104 °F	ISO 11403-1 -2
	42.19 MPa @Strain 16.69 %, Temperature 40.0 °C	6119 psi @Strain 16.69 %, Temperature 104 °F	ISO 11403-1 -2

Mechanical Properties	53.5 MPa Metric	7760 psi English	Comments ISO 11403-1 -2
	@Strain 2.50 %, Temperature 23.0 °C	@Strain 2.50 %, Temperature 73.4 °F	
Tensile Strength, Yield	59.0 MPa	8560 psi	ISO 527-1/-2
Elongation at Break	30 %	30 %	Nominal; ISO 527-1/-2
Elongation at Yield	8.0 %	8.0 %	ISO 527-1/-2
Tensile Modulus	2.60 GPa	377 ksi	ISO 527-1/-2
Flexural Strength	88.0 MPa	12800 psi	ISO 178
Shear Modulus	0.0640 GPa	9.28 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 160 °C	@Temperature 320 °F	
	0.0900 GPa	13.1 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.187 GPa	27.1 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 70.0 °C	@Temperature 158 °F	
	0.869 GPa	126 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.959 GPa	139 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	1.07 GPa	155 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -50.0 °C	@Temperature -58.0 °F	
Secant Modulus	0.313 GPa	45.4 ksi	ISO 11403-1 -2
	@Strain 13.35 %, Temperature 40.0 °C	@Strain 13.35 %, Temperature 104 °F	
	0.547 GPa	79.4 ksi	ISO 11403-1 -2
	@Strain 6.70 %, Temperature 40.0 °C	@Strain 6.70 %, Temperature 104 °F	
	1.19 GPa	172 ksi	ISO 11403-1 -2
	@Strain 1.69 %, Temperature 40.0 °C	@Strain 1.69 %, Temperature 104 °F	
	1.93 GPa	279 ksi	ISO 11403-1 -2
	@Strain 2.86 %, Temperature 23.0 °C	@Strain 2.86 %, Temperature 73.4 °F	
	2.48 GPa	359 ksi	

Mechanical Properties	Metric @Strain 1.59 %, Temperature 23.0 °C	English @Strain 1.59 %, Temperature 73.4 °F	ISO 11403-1 -2 Comments
	2.69 GPa	391 ksi	
	@Strain 0.320 %, Temperature 23.0 °C	@Strain 0.320 %, Temperature 73.4 °F	ISO 11403-1 -2
Izod Impact, Notched (ISO)	4.00 kJ/m ²	1.90 ft-lb/in ²	ISO 180/1A
	5.00 kJ/m ²	2.38 ft-lb/in ²	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	142 kJ/m ²	67.6 ft-lb/in ²	ISO 180/1U
	70.0 kJ/m ²	33.3 ft-lb/in ²	ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.450 J/cm ²	2.14 ft-lb/in ²	ISO 179/1eA
	0.350 J/cm ²	1.67 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Tensile Creep Modulus, 1 hour	2600 MPa	377000 psi	ISO 899-1
	@Time 3600 sec	@Time 1.00 hour	
Tensile Creep Modulus, 1000 hours	1800 MPa	261000 psi	ISO 899-1
	@Time 3.60e+6 sec	@Time 1000 hour	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	130 µm/m-°C	72.2 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	130 µm/m-°C	72.2 µin/in-°F	ISO 11359-1/-2
Specific Heat Capacity	2.10 J/g-°C	0.502 BTU/lb-°F	
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft ² -°F	of melt
Melting Point	225 °C	437 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	145 °C	293 °F	ISO 75-1/-2
	180 °C	356 °F	annealed; ISO 75-1/-2
Deflection Temperature at 1.8 MPa			

(264 psi) Thermal Properties	60.0 °C Metric	140 °F English	ISO 75-1/-2 Comments
	60.0 °C	140 °F	annealed; ISO 75-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Dielectric Constant	3.2	3.2	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	3.8	3.8	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dissipation Factor	26.0 kV/mm	660 kV/in	IEC 60243-1
Comparative Tracking Index	0.0020	0.0020	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Comparative Tracking Index	0.020	0.020	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

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