DuPont Performance Polymers Crastin® 6131 NC010 Polybutylene Terephthalate (PBT) (Unverified Data**)

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

Material Notes:

Unreinforced Low Viscosity Polybutylene Terephthalate Crastin 6131 NC010 is an unreinforced low viscosity polybutylene terephthalate resin for extrusion and injection molding.Information provided by DuPont Performance Polymers

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Crastin-6131-NC010-Polybutylene-Terephthalate-PBT-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.11 g/cc	0.0401 lb/in³	
	1.30 g/cc	0.0470 lb/in³	ISO 1183
Water Absorption	0.40 % @Thickness 2.00 mm	0.40 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.200 % @Thickness 2.00 mm	0.200 % @Thickness 0.0787 in	Sim. to ISO 62
Viscosity	68390 cP @Shear Rate 5000 1/s, Temperature 260 °C	68390 cP @Shear Rate 5000 1/s, Temperature 500 °F	ISO 11403-1 -2
	79240 cP @Shear Rate 5000 1/s, Temperature 250 °C	79240 cP @Shear Rate 5000 1/s, Temperature 482 °F	ISO 11403-1 -2
	91390 cP @Shear Rate 5000 1/s, Temperature 240 °C	91390 cP @Shear Rate 5000 1/s, Temperature 464 °F	ISO 11403-1 -2
	130000 cP @Shear Rate 500 1/s, Temperature 260 °C	130000 cP @Shear Rate 500 1/s, Temperature 500 °F	ISO 11403-1 -2
	169100 cP @Shear Rate 500 1/s, Temperature 250 °C	169100 cP @Shear Rate 500 1/s, Temperature 482 °F	ISO 11403-1 -2
	222100 cP @Shear Rate 500 1/s, Temperature 240 °C	222100 cP @Shear Rate 500 1/s, Temperature 464 °F	ISO 11403-1 -2
Viscosity Test	110 cm³/g	110 cm³/g	ISO 307 1157 1628

Physical Properties	Metric	English	Comments
Linear Mold Shrinkage, Flow	0.017 cm/cm	0.017 in/in	ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.016 cm/cm	0.016 in/in	ISO 294-4 2577
Melt Flow	48 g/10 min @Load 2.16 kg, Temperature 250 °C	48 g/10 min @Load 4.76 lb, Temperature 482 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Stress	10.0 MPa @Strain 0.380 %, Time 3600 sec	1450 psi @Strain 0.380 %, Time 1.00 hour	isochronous; ISO 11403-1 -2
	10.0 MPa @Strain 0.550 %, Time 36000 sec	1450 psi @Strain 0.550 %, Time 10.0 hour	isochronous; ISO 11403-1 -2
	10.0 MPa @Strain 0.770 %, Time 360000 sec	1450 psi @Strain 0.770 %, Time 100 hour	isochronous; ISO 11403-1 -2
	10.0 MPa @Strain 1.10 %, Time 3.60e+6 sec	1450 psi @Strain 1.10 %, Time 1000 hour	isochronous; ISO 11403-1 -2
	10.0 MPa @Strain 1.45 %, Time 3.60e+7 sec	1450 psi @Strain 1.45 %, Time 10000 hour	isochronous; ISO 11403-1 -2
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	6.0 %	6.0 %	ISO 527-1/-2
Tensile Modulus	2.60 GPa	377 ksi	ISO 527-1/-2
Flexural Strength	85.0 MPa	12300 psi	ISO 178
Shear Modulus	0.110 GPa @Temperature 150 °C	16.0 ksi @Temperature 302 °F	Dynamic; ISO 11403-1 -2
	0.160 GPa @Temperature 110 °C	23.2 ksi @Temperature 230 °F	Dynamic; ISO 11403-1 -2
	0.340 GPa @Temperature 60.0 °C	49.3 ksi @Temperature 140 °F	Dynamic; ISO 11403-1 -2
	1.06 GPa	154 ksi	

Mechanical Properties	Metric	English	Comments
	@Temperature 10.0 °C	@Temperature 50.0 °F	Dynamic; ISO 11403-1 -2
	1.12 GPa @Temperature -20.0 °C	162 ksi @Temperature -4.00 °F	Dynamic; ISO 11403-1 -2
	1.20 GPa @Temperature -50.0 °C	174 ksi @Temperature -58.0 °F	Dynamic; ISO 11403-1 -2
Izod Impact, Notched (ISO)	3.50 kJ/m²	1.67 ft-lb/in²	ISO 180/1A
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm²	1.90 ft-lb/in²	ISO 179/1eA
	0.400 J/cm² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eA
Tensile Creep Modulus, 1 hour	909 MPa @Pressure 30.0 MPa, Temperature 23.0 °C	132000 psi @Pressure 4350 psi, Temperature 73.4 °F	ISO 11403-1 -2
	975.61 MPa @Pressure 5.00 MPa, Temperature 23.0 °C	141500 psi @Pressure 725 psi, Temperature 73.4 °F	ISO 11403-1 -2
	1170 MPa @Pressure 25.0 MPa, Temperature 23.0 °C	170000 psi @Pressure 3630 psi, Temperature 73.4 °F	ISO 11403-1 -2
	1670 MPa @Pressure 20.0 MPa, Temperature 23.0 °C	242000 psi @Pressure 2900 psi, Temperature 73.4 °F	ISO 11403-1 -2
	2270 MPa @Pressure 15.0 MPa, Temperature 23.0 °C	329000 psi @Pressure 2180 psi, Temperature 73.4 °F	ISO 11403-1 -2
	2630 MPa @Pressure 10.0 MPa, Temperature 23.0 °C	382000 psi @Pressure 1450 psi, Temperature 73.4 °F	ISO 11403-1 -2
	2810 MPa @Pressure 5.00 MPa, Temperature 23.0 °C	407000 psi @Pressure 725 psi, Temperature 73.4 °F	ISO 11403-1 -2
	455 MPa	65900 psi	

Mechanical Properties	Metric	English	Comments
Tensile Creep Modulus, 1000 hours	@Pressure 25.0 MPa, Temperature 23.0 °C	@Pressure 3630 psi, Temperature 73.4 °F	ISO 11403-1 -2
	606 MPa @Pressure 20.0 MPa, Temperature 23.0 °C	87900 psi @Pressure 2900 psi, Temperature 73.4 °F	ISO 11403-1 -2
	789 MPa @Pressure 15.0 MPa, Temperature 23.0 °C	115000 psi @Pressure 2180 psi, Temperature 73.4 °F	ISO 11403-1 -2
	909 MPa @Pressure 10.0 MPa, Temperature 23.0 °C	132000 psi @Pressure 1450 psi, Temperature 73.4 °F	ISO 11403-1 -2

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	108 µm/m-°C	60.0 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	144 µm/m-°C	80.0 µin/in-°F	ISO 11359-1/-2
Specific Heat Capacity	2.05 J/g-°C	0.490 BTU/lb-°F	
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft²-°F	of melt
Melting Point	225 °C	437 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	115 °C	239 °F	ISO 75-1/-2
	180 °C	356 °F	annealed; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	50.0 °C	122 °F	ISO 75-1/-2
	60.0 °C	140 °F	annealed; ISO 75-1/-2
Vicat Softening Point	175 °C	347 °F	50°C/h 50N; ISO 306
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	IEC 60695-11-10
	HB @Thickness 0.900 mm	HB @Thickness 0.0354 in	IEC 60695-11-10
Oxygen Index	22 %	22 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	IEC 60093

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V	600 V	IEC 60112

Descriptive Properties	Value	Comments
Delivery Form	Pellets	
Part Marking Code	>PBT<	ISO 11469
Processing	Casting	
	Coatable	
	Film Extrusion	
	Injection Moulding	
	Other Extrusion	
	Profile Extrusion	
	Sheet Extrusion	
Regional Availability	Europe	
	Near East/Africa	
Resin Identification	PBT	
UL recognition	UL	

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