Crastin® ST820 NC010

THERMOPLASTIC POLYESTER RESIN

DuPont Performance Polymers

Message:

Unreinforced Polybutylene Terephthalate with Excellent Impact Resistance

General Information			
UL YellowCard	E41938-270048		
Additive	Mold Release		
Uses	Profiles Sheet		
Agency Ratings	UL Unspecified Rating		
Forms	Pellets		
Processing Method	Coating Extrusion Injection Molding Profile Extrusion Sheet Extrusion		
Multi-Point Data	Creep Modulus vs. Time (ISO 11403-1) Isochronous Stress vs. Strain (ISO 11403-1) Isothermal Stress vs. Strain (ISO 11403-1) Secant Modulus vs. Strain (ISO 11403-1) Shear Stress vs. Shear Rate (ISO 11403-1) Tensile Modulus vs. Temperature (ISO 11403-1) Viscosity vs. Shear Rate (ISO 11403-2)		
Part Marking Code (ISO 11469)	>PBT-HI<		
Resin ID (ISO 1043)	PBT-HI		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.22	g/cm³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	1.8	%	
Flow [1]	2.5	%	
Flow	1.9	%	
Water Absorption			ISO 62
23°C, 24 hr, 2.00 mm	0.31	%	
Equilibrium, 23°C, 2.00 mm, 50% RH	0.12	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**

Rockwell Hardness (R-Scale)	104		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	1700	MPa	ISO 527-2
Tensile Stress (Yield)	38.0	MPa	ISO 527-2
Tensile Strain (Yield)	7.0	%	ISO 527-2
Nominal Tensile Strain at Break	> 50	%	ISO 527-2
Flexural Modulus	1550	MPa	ISO 178
Flexural Stress	50.0	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-40°C	10	kJ/m^2	
-30°C	10	kJ/m^2	
23°C	85	kJ/m^2	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength			ISO 180/1A
-40°C	10	kJ/m^2	
-30°C	15	kJ/m^2	
23°C	60	kJ/m^2	
Unnotched Izod Impact Strength			ISO 180/1U
-40°C	270	kJ/m^2	
-30°C	No Break		
23°C	No Break		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed	100	°C	ISO 75-2/B
0.45 MPa, Annealed	145	°C	ISO 75-2/B
1.8 MPa, Unannealed	50.0	°C	ISO 75-2/A
Vicat Softening Temperature	125	°C	ISO 306/B50
Melting Temperature [2]	225	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow	1.9E-4	cm/cm/°C	
Transverse	1.9E-4	cm/cm/°C	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Electric Strength	27	kV/mm	IEC 60243-1
Dissipation Factor			IEC 60250
100 Hz	0.020		
1 MHz	0.019		
Comparative Tracking Index	600	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Burning Rate (1.00 mm)	38	mm/min	ISO 3795
Flammability Classification			IEC 60695-11-10, -20
0.800 mm	HB		
1.50 mm	HB		
Oxygen Index	19	%	ISO 4589-2

Fill Analysis	Nominal Value	Unit
Melt Density	1.03	g/cm^3
Specific Heat Capacity of Melt	2100	J/kg/°C
Thermal Conductivity of Melt	0.20	W/m/K

NOTE	
1.	Annealed
2.	10°C/min

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