DELRIN 311DP NC010

Delrin USA, LLC - *Acetal (POM) Homopolymer*

General Information

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Mold Release		
Features	• Creep Resistant • Crystalline • Fast Molding Cycle • Fatigue Resistant	• Good Mold Release • Good Thermal Stability • High Dimensional Stability • Homopolymer	• Low Warpage • Medium-high Viscosity
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D6778 POM0112	• GM GMP.POM.002	• STELLANTIS MS-DB-100 CPN4393
Part Marking Code (ISO 11469)	• >POM<		
Resin ID (ISO 1043)	• POM		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.42	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	7.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	6.0	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.8	%	
Flow	1.9	%	
Water Absorption (Saturation, 73°F, 0.0787 in)	0.90	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.20	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	479000	psi	ISO 527-1
Tensile Stress (Yield)	10700	psi	ISO 527-2
Tensile Strain (Yield)	15	%	ISO 527-2
Nominal Tensile Strain at Break	35	%	ISO 527-2
Tensile Creep Modulus (1 hr)	348000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	174000	psi	ISO 899-1
Flexural Modulus	450000	psi	ISO 178
Flexural Stress (3.5% Strain)	12500	psi	ISO 178
Poisson's Ratio	0.37		
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	3.8	ft·lb/in²	
73°F	4.3	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	120	ft·lb/in²	
73°F	140	ft·lb/in²	
Notched Izod Impact Strength			ISO 180/1A
-40°F	3.8	ft·lb/in²	
73°F	4.8	ft·lb/in²	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ISO 2039-2
M-Scale	98		

R-Scale	122		
Ball Indentation Hardness (H 961/30)	25400	psi	ISO 2039-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	329	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	217	°F	ISO 75-2/A
Vicat Softening Temperature	320	°F	ISO 306/B50
Melting Temperature [2]	352	°F	ISO 11357-3
CLTE - Flow	6.1E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	6.1E-5	in/in/°F	ISO 11359-2
RTI Elec			UL 746B
0.030 in	122	°F	
0.06 in	230	°F	
0.12 in	230	°F	
RTI Imp			UL 746B
0.030 in	122	°F	
0.06 in	185	°F	
0.12 in	194	°F	
RTI Str			UL 746B
0.030 in	122	°F	
0.06 in	194	°F	
0.12 in	203	°F	
Annealing Temperature	320	°F	
Annealing Time - Optional	30.0	min/mm	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+15	ohms	IEC 62631-3-2
Volume Resistivity	1.0E+13	ohms·m	IEC 62631-3-1
Relative Permittivity			IEC 62631-2-1
100 Hz	3.80		
1 MHz	3.80		
Dissipation Factor (1 MHz)	5.0E-3		IEC 62631-2-1
Flammability	**Nominal Value**	**Unit**	**Test Method**
Burning Rate [3] (0.0394 in)	< 1.1	in/min	ISO 3795
Flame Rating			UL 94
0.031 in	HB		
0.06 in	HB		
Flammability Classification			IEC 60695-11-10, -20
0.03 in	HB		
0.06 in	HB		
FMVSS Flammability	B		FMVSS 302
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Emission	< 8	ppm	VDA 275
Fogging - G-value (condensate)	0.40	mg	ISO 6452

Processing Information

Injection	**Nominal Value**	**Unit**
Drying Temperature	176	°F
Drying Time - Desiccant Dryer	2.0 to 4.0	hr
Suggested Max Moisture	< 0.20	%
Processing (Melt) Temp	410 to 428	°F
Melt Temperature, Optimum	419	°F
Mold Temperature	176 to 212	°F
Mold Temperature, Optimum	194	°F
Holding Pressure	11600 to 14500	psi
Drying Recommended	yes	
Hold Pressure Time	7.50	s/mm
Maximum Screw Tangential Speed	472	in/min
Extrusion	**Nominal Value**	**Unit**
erature	167 to 185	°F
	2.0 to 4.0	
lax Moisture	< 0.20	
ature	383 to 401	
lt Temperature, Optimum	392	