Asahi Kasei Plastics North America, Inc.

Monday, 13 July 2009

Tenac™ LM511

Asahi Kasei Plastics North America Inc. - *Acetal (POM) Homopolymer*

Unit System: English

Actions **Legend (Open)**

General Information

General			
Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Lubricant		
Features	• Good Wear Resistance • Homopolymer	• Low Friction • Lubricated	• Medium Viscosity
Uses	• Electrical/Electronic Applications	• Household Goods	• Industrial Applications
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM and ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.42		ASTM D792
Density	1.42	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR)	22	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	22	g/10 min	ISO 1133
Molding Shrinkage - Flow	0.018 to 0.022	in/in	ASTM D955
Molding Shrinkage			ISO 294-4
Across Flow	1.8 to 2.2	%	
Flow	1.8 to 2.2	%	
Water Absorption (24 hr)	0.20	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	435000	psi	ISO 527-2
Tensile Strength	8700	psi	ASTM D638
Tensile Stress (Yield)	9570	psi	ISO 527-2
Tensile Elongation (Break)	30	%	ASTM D638
Tensile Strain (Break)	45	%	ISO 527-2
Flexural Modulus	397000	psi	ASTM D790
Flexural Strength	13100	psi	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	3.3	ft·lb/in²	ISO 179/1eA
Notched Izod Impact	1.11	ft·lb/in	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (66 psi, Unannealed)	320	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	203	°F	ISO 75-2/A
CLTE - Flow	0.000056	in/in/°F	ASTM E831
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating - UL	HB		UL 94
Additional Information			
The values listed as Mold Shrinkage, were tested in accordance with Asahi Kasei method.			

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180	°F
Drying Time	3.0 to 4.0	hr
Rear Temperature	374 to 383	°F
Middle Temperature	383 to 392	°F
Front Temperature	392 to 410	°F
Nozzle Temperature	392 to 410	°F
Mold Temperature	120	°F
Injection Pressure	11000 to 20000	psi
Holding Pressure	11000 to 20000	psi

Back Pressure	500 to 1500	psi
Screw Speed	20 to 100	rpm
Screw Compression Ratio	3.0:1.0 to 4.5:1.0	

Injection Notes

Drying Conditions: Usually not necessary
Injection Speed: 1-5 Seconds
Cooling Time: Short
Screw Type: General
Slightly longer cycle times may be required to mold wall thicknesses over 1/4 inch.
Slightly higher injection pressures and mold temperatures may be required to mold wall thicknesses below 0.100 inches.

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	374	°F
Cylinder Zone 2 Temp.	392	°F
Cylinder Zone 3 Temp.	410	°F
Melt Temperature	374 to 410	°F

Notes

[1] Typical properties: these are not to be construed as specifications.