Friday, January 26, 2007

POLYLAC® PA-757

CHI MEI CORPORATION - *Acrylonitrile Butadiene Styrene*

Unit System: English

Actions

Legend (Open)

General Information

General	
Material Status	• Commercial: Active
Availability	• Africa • Asia • Australia • Europe • Latin America • Middle East • North America • Pacific Rim • South America
Test Standards Available	• ASTM • DIN • ISO
Features	• General Purpose • Gloss, High • Impact Resistance, Medium • Rigidity, High • RoHS Compliant
Agency Ratings	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

ASTM and ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density -Specific Gravity	1.05	sp gr 23/23°C	ASTM D792
Density	1.05	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	1.8	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	1.16	in³/10min	ISO 1133
Mold Shrink, Linear-Flow (0.125 in)	0.0030 to 0.0070	in/in	ASTM D955
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (73 °F)	425000	psi	ASTM D638
Tensile Strength @ Yield (73 °F)	6800	psi	ASTM D638
Tensile Stress at Yield [2]	7830	psi	ISO 527-1, -2
Tensile Stress at Break [2]	5370	psi	ISO 527-1, -2
Tensile Strain at Yield [2]	20	%	ISO 527-1, -2
Tensile Elongation @ Brk (73 °F)	20	%	ASTM D638
Flexural Modulus (73 °F)	380000	psi	ASTM D790
Flexural Modulus [3]	319000	psi	ISO 178
Flexural Strength [3]	11000	psi	ISO 178
Flexural Strength @ Yield (73 °F)	11200	psi	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength	7.14	ft-lb/in²	ISO 179
Charpy Unnotched Impact Strength	No Break	ft-lb/in²	ISO 179
Notched Izod Impact			ASTM D256
(73 °F, 0.125 in)	3.70	ft-lb/in	
(73 °F, 0.250 in)	3.30	ft-lb/in	
Notched Izod Impact Strength	6.66	ft-lb/in²	ISO 180
Unnotched Izod Impact Strength	No Break	ft-lb/in²	ISO 180
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	116		ASTM D785
Thermal	**Nominal Value**	**Unit**	**Test Method**
DTUL @66psi - Unannealed	208	°F	ASTM D648
DTUL @264psi - Unannealed	190	°F	ASTM D648
HDT A (1.80 MPa) Unannealed	180	°F	ISO 75A-1, -2
DTUL @264psi - Annealed	210	°F	ASTM D648
HDT A (1.80 MPa) Annealed	208	°F	ISO 75A-1, -2
Vicat Softening Point	221	°F	ASTM D1525
Vicat Softening Temperature			ISO 306
(A120 (120°C/h 10N))	221	°F	
(A50 (50°C/h 10N))	219	°F	
(B120 (120°C/h 50N))	210	°F	
(B50 (50°C/h 50N))	208	°F	
CLTE, Flow	0.000052	in/in/°F	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+15	ohm-cm	ASTM D257
Arc Resistance (PLC)	PLC 1		ASTM D495
Flammability	**Nominal Value**	**Unit**	**Test Method**

Flame Rating - UL			UL 94
(0.0591 in)	HB		
(0.118 in)	HB		
UL File Number	E56070		

UL 746	Nominal Value	Unit	Test Method
RTI Str			UL 746
(0.0591 in)	185	°F	
(0.118 in)	185	°F	
RTI Imp			UL 746
(0.0591 in)	176	°F	
(0.118 in)	176	°F	
RTI Elec			UL 746
(0.0591 in)	185	°F	
(0.118 in)	185	°F	
Comparative Tracking Index (CTI) (PLC)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)	PLC 1		UL 746
Hot-wire Ignition (HWI) (PLC)			UL 746
(0.0591 in)	PLC 4		
(0.118 in)	PLC 3		
High Amp Arc Ignition (HAI) (PLC)			UL 746
(0.0591 in)	PLC 0		
(0.118 in)	PLC 0		

Additional Properties

Melt Flow Rate, ASTM D-1238, Condition G: 1.8 g/10 min
Volume Resistivity, ASTM D257: > 1E 15 ohm-cm
Impact Flexural Test, ISO 179/2C, Notched: 11 kJ/m²
Impact Flexural Test, ISO 179/2D, Unnotched: No Break
Vicat Softening Temp, DIN 53460, 50°C/hr ; 1 kg: 104°C
Vicat Softening Temp, DIN 53460, 50°C/hr ; 5 kg: 98°C
Vicat Softening Temp, DIN 53460, 120°C/hr ; 1 kg: 105°C
Vicat Softening Temp, DIN 53460, 120°C/hr ; 5 kg: 99°C
DTUL @ 1.80 MPa, DIN 53461, Unannealed: 82°C
DTUL @ 1.80 MPa, DIN 53461, Annealed: 98°C
Impact Flexural Test, DIN 53453, Notched: 11 kJ/m²
Impact Flexural Test, DIN 53453, Unnotched: No Break
Tensile Strength @ Yield, DIN 53455, 50 mm/min: 54 MPa
Tensile Strength @ Break, DIN 53455, 50 mm/min: 37 MPa
Tensile Elongation, DIN 53455, 50 mm/min: 20%
Flexural Strength, DIN 53452, 2 mm/min: 76 MPa
Flexural Modulus, DIN 53452, 2 mm/min: 2.2 GPa
Mass Density, DIN 53479-A, 23°C: 1.05 g/cm³

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	175 to 185	°F
Drying Time	3.0	hr
Suggested Max Moisture	0.10	%
Suggested Shot Size	40 to 80	%
Suggested Max Regrind	20	%
Rear Temperature	355 to 390	°F
Middle Temperature	390 to 430	°F
Front Temperature	420 to 455	°F
Nozzle Temperature	410 to 445	°F
Processing (Melt) Temp	465	°F
Mold Temperature	120 to 140	°F
Injection Pressure	850 to 1000	psi
Injection Rate	Slow-Moderate	
Holding Pressure	710 to 850	psi
Back Pressure	70.0 to 140	psi
Screw Speed	50 to 90	rpm

Notes

1 Typical properties: these are not to be construed as specifications.
2 2.0 in/min
3 0.079 in/min