Amilan™ CM1017

Toray Industries, Inc. - Polyamide 6

General Information			
Product Description			
Standard			
General			
Features	• Chemical Resistant		
Uses	• Appliance Components • Automotive Applications • Automotive Electronics • Automotive Interior Parts • Automotive Under the Hood	• Construction Applications • Electrical/Electronic Applications • Fuel Lines • Office Automation Equipment • Seats	• Sporting Goods • Tanks • White Goods & Small Appliances • Windows & Doors
Processing Method	• Injection Molding		
ISO Designation	• >PA6<		

Properties [1]				
Physical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Density (73°F)	1.13	--	g/cm³	ISO 1183
Spiral Flow [2]	26.4	--	in	Internal Method
Molding Shrinkage				Internal Method
0.0394 in [3]	0.50 to 1.0	--	%	
0.118 in [4]	1.0 to 1.6	--	%	
Water Absorption [5] (24 hr, 73°F)	1.8	--	%	ISO 62
Water Absorption [5]				ISO 62
Saturation, 73°F	11	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Stress				ISO 527-2
-40°F	17400	16700	psi	
73°F	12300	5800	psi	
176°F	4350	2900	psi	
Tensile Strain (Yield, 73°F)	1.5	--	%	ISO 527-2
Tensile Strain (Break, 73°F)	38	> 50	%	ISO 527-2
Flexural Modulus				ISO 178
-40°F	566000	522000	psi	
73°F	435000	145000	psi	
176°F	116000	58000	psi	
Flexural Stress				ISO 178
-40°F	21000	20300	psi	
73°F	17400	6530	psi	
176°F	7250	4350	psi	
Compressive Stress (73°F)	12300	--	psi	ISO 604
Shear Strength (73°F)	10900	10200	psi	ASTM D732
Taber Abrasion Resistance				ISO 9352
1000 Cycles	3.00 to 4.00	--	mg	
Coefficient of Friction - vs. Metal [6]	0.15 to 0.20	--		Suzuki Method

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°F	1.2	5.5	ft·lb/in²	
73°F	1.9	15	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179
-40°F	No Break	--		
73°F	No Break	--		
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Rockwell Hardness				ISO 2039-2
R-Scale, 73°F	119	90		
R-Scale, 176°F	83	--		
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load				ISO 75-2/B
66 psi, Unannealed	374	--	°F	
Melting Temperature	437	--	°F	DSC
Specific Heat	0.454	--	Btu/lb/°F	
Thermal Conductivity	1.7	--	Btu·in/hr/ft²/°F	
Coefficient of Linear Thermal Expansion	8	--	cm^-5/cm/°C	ISO 11359-2
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity	1.0E+14 to 1.0E+15	1.0E+11 to 1.0E+12	ohms·cm	IEC 60093
Electric Strength	510	--	V/mil	IEC 60243-1
Dielectric Constant				IEC 60250
73°F, 50 Hz	4.10	9.00		
73°F, 1 kHz	3.90	8.00		
73°F, 1 MHz	3.40	4.50		
Dissipation Factor				IEC 60250
73°F, 50 Hz	0.070	0.10		
73°F, 1 kHz	0.060	0.11		
73°F, 1 MHz	0.030	0.13		
Arc Resistance	120	--	sec	UL 746
Comparative Tracking Index (CTI)	> 600	--	V	UL 746A
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating (0.030 in)	V-2	V-2		UL 94
Additional Information				
Dry	Water Absorption Moisture Content 3.5%			

Notes

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

[2] Melt Temperature: 500°F, Injection Pressure: 1.31E+4 psi, 0.0787 in

[3] 80x80x1mm

[4] 80x80x3mm

[5] in water

[6] Without Lubrication