

Amilan® CM1017

Polyamide 6
Toray Resin Company

Message:

Amilan® CM1017 is a Polyamide 6 (Nylon 6) product. It is available in Asia Pacific, Europe, or North America. Primary characteristic: flame rated.

General Information				
UL YellowCard		E41797-233411		
Part Marking Code		>PA6<		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.13	--	g/cm ³	ISO 1183
Molding Shrinkage - Flow				Internal Method
1.00 mm ¹	0.50 to 1.0	--	%	
3.00 mm ²	1.0 to 1.6	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.8	--	%	
Saturation, 23°C	11	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness				ISO 2039-2
R-Scale, 80°C	83	--		
R-Scale, 23°C	119	90		
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Stress				ISO 527-2
-40°C	120	115	MPa	
23°C	85.0	40.0	MPa	
80°C	30.0	20.0	MPa	
Tensile Strain				ISO 527-2
Yield, 23°C	1.5	--	%	
Break, 23°C	38	50	%	
Flexural Modulus				ISO 178
-40°C	3900	3600	MPa	
23°C	3000	1000	MPa	
80°C	800	400	MPa	
Flexural Stress				ISO 178
-40°C	145	140	MPa	
23°C	120	45.0	MPa	
80°C	50.0	30.0	MPa	
Compressive Stress (23°C)	85.0	--	MPa	ISO 604
Shear Strength (23°C)	75.0	70.0	MPa	ASTM D732

Taber Abrasion Resistance (1000 Cycles)	3.00 to 4.00	--	mg	ISO 9352
Coefficient of Friction - vs. Metal ³	0.150 to 0.200	--		Suzuki Method
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	2.5	12	kJ/m ²	
23°C	4.0	31	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-40°C	No Break	--		
23°C	No Break	--		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature (0.45 MPa, Unannealed)	190	--	°C	ISO 75-2/B
Melting Temperature	225	--	°C	DSC
CLTE - Flow	8.0E-5	--	cm/cm/°C	ISO 11359-2
Specific Heat	1900	--	J/kg/°C	
Thermal Conductivity	0.25	--	W/m/K	
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	20	--	kV/mm	IEC 60243-1
Dielectric Constant ⁴				IEC 60250
23°C, 50 Hz	4.10	9.00		
23°C, 1 kHz	3.90	8.00		
23°C, 1 MHz	3.40	4.50		
Dissipation Factor ⁵				IEC 60250
23°C, 50 Hz	0.070	0.10		
23°C, 1 kHz	0.060	0.11		
23°C, 1 MHz	0.030	0.13		
Arc Resistance ⁶	120	--	sec	UL 746
Comparative Tracking Index (CTI)	600	--	V	UL 746
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.794 mm)	V-2	--		UL 94
NOTE				
1.	80x80x1mm			
2.	80x80x3mm			
3.	Without Lubrication			
4.	60% RH			
5.	60% RH			
6.	Tungsten Electrode			

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