

Amilan™ CM1007

Nylon 6

TECHNICAL DATA

Product Description

High flow

Uses

- Appliance Components
- Construction Applications
- Electrical/Electronic Applications
- Office Automation Equipment
- Sporting Goods
- White Goods & Small Appliances

Processing Method

- Injection Molding

ISO Designation

- >PA6<

Type

- Nylon6/Unreinforced

ASTM & ISO Properties

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.13	g/cm ³	ISO 1183
Spiral Flow ¹	> 700	mm	Internal Method
Molding Shrinkage - Flow			Internal Method
1.00 mm ²	0.50 to 1.00	%	
3.00 mm ³	1.00 to 1.60	%	
Water Absorption ⁴			ISO 62
24 hr, 23°C	1.8	%	
Saturation, 23°C	10.5	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ISO 527-2
-40°C	110	MPa	
23°C	80	MPa	
80°C	25	MPa	
Tensile Strain			ISO 527-2
Yield, 23°C	2.0	%	
Break, 23°C	35	%	
Flexural Modulus			ISO 178
-40°C	3800	MPa	
23°C	2800	MPa	
80°C	700	MPa	
Flexural Stress			ISO 178
-40°C	135	MPa	
23°C	110	MPa	
80°C	40	MPa	
Compressive Stress (23°C)	80	MPa	ISO 604
Shear Strength (23°C)	70	MPa	ASTM D732
Taber Abrasion Resistance (1000 Cycles)	3 to 4	mg	ISO 9352
Coefficient of Friction - vs. Metal ⁵	0.15 to 0.20		Suzuki Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-40°C	3.0	kJ/m ²	
23°C	5.0	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179
-40°C	No Break		
23°C	No Break		

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
R-Scale, 23°C	119		
R-Scale, 80°C	80		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ISO 75-2/B
0.45 MPa, Unannealed	182	°C	
Melting Temperature	225	°C	DSC
CLTE - Flow	8.0	cm ³ /cm/°C	ISO 11359-2
Specific Heat	1900	J/kg/°C	
Thermal Conductivity	0.25	W/m/K	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+12 to 1.0E+13	ohms·m	IEC 60093
Electric Strength	20	kV/mm	IEC 60243-1
Dielectric Constant			IEC 60250
23°C, 50 Hz	4.1		
23°C, 1 kHz	3.9		
23°C, 1 MHz	3.4		
Dissipation Factor			IEC 60250
23°C, 50 Hz	0.070		
23°C, 1 kHz	0.060		
23°C, 1 MHz	0.030		
Arc Resistance	120	sec	UL 746
Comparative Tracking Index (CTI)	600	V	UL 746A
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.8 mm)	V-2		UL 94

Additional Information

Water absorption Moisture Content 3.5%

Notes

¹ Melt Temperature: 260°C, Injection Pressure: 900 bar, 2.00 mm

² 80x80x1mm

³ 80x80x3mm

⁴ in water

⁵ Without Lubrication

Toray Industries, Inc.

