

Amilan™ CM1017

Nylon 6

TECHNICAL DATA

Product Description

Standard

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<

Type

- Nylon6/Unreinforced

ASTM & ISO Properties

Physical	Dry	Water Absorption	Unit	Test Method
Density (23°C)	1.13	--	g/cm ³	ISO 1183
Spiral Flow ¹	670	--	mm	Internal Method
Molding Shrinkage				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	Dry	Water Absorption	Unit	Test Method
Tensile Strength				ISO 527-2
-40°C	120	115	MPa	
23°C	85	40	MPa	
80°C	30	20	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	MPa	
80°C	50	30	MPa	
Compressive Stress (23°C)	85	--	MPa	ISO 604
Shear Strength (23°C)	75	70	MPa	ASTM D732
Taber Abrasion Resistance				ISO 9352
1000 Cycles	3 to 4	--	mg	
Coefficient of Friction - vs. Metal ⁵	0.15 to 0.20	--		Suzuki Method



Impact	Dry	Water Absorption	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	2.5	11.5	kJ/m ²	
23°C	4.0	31.0	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-40°C	No Break	--		
23°C	No Break	--		
Hardness	Dry	Water Absorption	Unit	Test Method
Rockwell Hardness				ISO 2039-2
R-Scale, 23°C	119	90		
R-Scale, 80°C	83	--		
Thermal	Dry	Water Absorption	Unit	Test Method
Deflection Temperature Under Load				ISO 75-2/B
0.45 MPa, Unannealed	190	--	°C	
Melting Temperature	225	--	°C	DSC
Specific Heat	1900	--	J/kg/°C	
Thermal Conductivity	0.25	--	W/m/K	
Coefficient of Linear Thermal Expansion	8	--	cm ³ /cm/°C	ISO 11359-2
Electrical	Dry	Water Absorption	Unit	Test Method
Volume Resistivity	1.0E+12 to 1.0E+13	1.0E+9 to 1.0E+10	ohms·m	IEC 60093
Electric Strength	20	--	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz	4.1	9.0		
23°C, 1 kHz	3.9	8.0		
23°C, 1 MHz	3.4	4.5		
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.070	0.100		
23°C, 1 kHz	0.060	0.110		
23°C, 1 MHz	0.030	0.130		
Arc Resistance	120	--	sec	UL 746
Comparative Tracking Index (CTI)	> 600	--	V	UL 746A
Flammability	Dry	Water Absorption	Unit	Test Method
Flame Rating (0.75 mm)	V-2	V-2		UL 94

Additional Information

Dry 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

