

Amilan™ CM3006

Nylon 66

TECHNICAL DATA

Product Description

Heat stabilized

Uses

- Additive Manufacturing (3D Printing)
- Automotive Electronics
- Monofilaments
- Agricultural Applications
- Connectors
- Automotive Applications
- Fasteners

Processing Method

- 3D Printing, Fused Filament Fabrication (FFF)
- Filament Extrusion
- Injection Molding

ISO Designation

- >PA66<

Type

- Nylon66/Unreinforced

ASTM & ISO Properties

Physical	Dry	Water Absorption	Unit	Test Method
Density (23°C)	1.14	--	g/cm ³	ISO 1183
Spiral Flow ¹	700	--	mm	Internal Method
Molding Shrinkage				Internal Method
1.00 mm ²	0.80 to 1.50	--	%	
3.00 mm ³	1.50 to 2.20	--	%	
Water Absorption ⁴				ISO 62
24 hr, 23°C	1.2	--	%	
Saturation, 23°C	8.0	--	%	
Mechanical	Dry	Water Absorption	Unit	Test Method
Tensile Strength				ISO 527-2
-40°C	115	110	MPa	
23°C	80	50	MPa	
80°C	40	40	MPa	
Tensile Strain				ISO 527-2
Yield, 23°C	1.5	--	%	
Break, 23°C	25	> 50	%	
Flexural Modulus				ISO 178
-40°C	4300	4100	MPa	
23°C	2900	1400	MPa	
80°C	900	500	MPa	
Flexural Stress				ISO 178
-40°C	140	125	MPa	
23°C	115	65	MPa	
80°C	65	40	MPa	
Compressive Stress (23°C)	90	--	MPa	ISO 604
Shear Strength (23°C)	80	75	MPa	ASTM D732
Taber Abrasion Resistance				ISO 9352
1000 Cycles	8	--	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	--	kJ/m ²	
23°C	4.0	23.5	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	100		
R-Scale, 80°C	97	--		
Thermal	Dry	Water Absorption	Unit	Test Method
Deflection Temperature Under Load				ISO 75-2/B
0.45 MPa, Unannealed	220	--	°C	
Melting Temperature	265	--	°C	DSC
Specific Heat	2100	--	J/kg/°C	
Thermal Conductivity	0.32	--	W/m/K	
Coefficient of Linear Thermal Expansion	9 to 10	--	cm ³ /cm/°C	ISO 11359-2
Electrical	Dry	Water Absorption	Unit	Test Method
Volume Resistivity	1.0E+11 to 1.0E+12	1.0E+10 to 1.0E+11	ohms·m	IEC 60093
Dielectric Constant				IEC 60250
23°C, 50 Hz	1.6	--		
Dissipation Factor (23°C, 50 Hz)	0.060	--		IEC 60250
Comparative Tracking Index (CTI)	> 530	--	V	UL 746A
Flammability	Dry	Water Absorption	Unit	Test Method
Flame Rating (0.71 mm)	V-2	V-2		UL 94

Additional Information

Dry Water Absorption Moisture Content 2.5%

Notes

¹ Melt Temperature: 290°C, Injection Pressure: 900 bar, 2.00 mm

² 80x80x1mm

³ 80x80x3mm

⁴ in water

⁵ Without Lubrication

Toray Industries, Inc.

