Amilan™ CM3001G-30

Nylon 66

TECHNICAL DATA

Product Description

Standard, GF30%

Uses

- Appliance Components
- Automotive Applications
- Automotive Electronics
- Automotive Under the Hood
- Construction Applications
- Electrical/Electronic Applications
- Gears
- Office Automation Equipment
- Power/Other Tools
- Sporting Goods
- Tanks
- Transmission Applications
- White Goods & Small Appliances

Processing Method

- Injection Molding

ISO Designation

- >PA66-GF30<

Type

- Nylon66/Reinforced

ASTM & ISO Properties

Physical	Dry	Water Absorption	Unit	Test Method
Density (23°C)	1.37	--	g/cm³	ISO 1183
Spiral Flow [1]	440	--	mm	Internal Method
Molding Shrinkage [2]				Internal Method
Across Flow : 3.00 mm	0.60 to 0.90	--	%	
Flow : 3.00 mm	0.20 to 0.50	--	%	
Water Absorption [3]				ISO 62
24 hr, 23°C	0.60	--	%	
Saturation, 23°C	5.5	--	%	
Mechanical	**Dry**	**Water Absorption**	**Unit**	**Test Method**
Tensile Strength				ISO 527-2
-40°C	235	215	MPa	
23°C	190	140	MPa	
80°C	120	100	MPa	
Tensile Strain				ISO 527-2
Break, -40°C	2.0	2.5	%	
Break, 23°C	2.5	3.0	%	
Break, 80°C	5.0	5.5	%	
Flexural Modulus				ISO 178
-40°C	11600	10500	MPa	
23°C	9500	6800	MPa	
80°C	5800	4300	MPa	
Flexural Stress				ISO 178
-40°C	325	315	MPa	
23°C	290	215	MPa	
80°C	190	135	MPa	
Compressive Stress				ISO 604
-40°C	250	200	MPa	
23°C	180	110	MPa	
80°C	110	70	MPa	
Shear Strength (23°C)	95	85	MPa	ASTM D732
Taber Abrasion Resistance				ISO 9352
1000 Cycles	24	--	mg	

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Mechanical	Dry	Water Absorption	Unit	Test Method
Coefficient of Friction - vs. Metal [4]	0.40	--		Suzuki Method
Impact	**Dry**	**Water Absorption**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179
-40°C	10.0	12.0	kJ/m²	
23°C	13.0	16.0	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179
-40°C	60.0	70.0	kJ/m²	
23°C	65.0	75.0	kJ/m²	
Hardness	**Dry**	**Water Absorption**	**Unit**	**Test Method**
Rockwell Hardness				ISO 2039-2
M-Scale, 23°C	97	--		
R-Scale, 23°C	121	--		
Thermal	**Dry**	**Water Absorption**	**Unit**	**Test Method**
Deflection Temperature Under Load				
0.45 MPa, Unannealed	262	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	255	--	°C	ISO 75-2/A
Melting Temperature	265	--	°C	DSC
Specific Heat	1800	--	J/kg/°C	
Thermal Conductivity	0.40	--	W/m/K	
Coefficient of Linear Thermal Expansion	2 to 3	--	cm^-5/cm/°C	ISO 11359-2
Electrical	**Dry**	**Water Absorption**	**Unit**	**Test Method**
Volume Resistivity	1.0E+13	1.0E+10 to 1.0E+11	ohms·m	IEC 60093
Electric Strength	20	17	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz	4.6	6.3		
23°C, 1 kHz	4.4	5.5		
23°C, 1 MHz	3.9	4.0		
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.020	0.080		
23°C, 1 kHz	0.020	0.080		
23°C, 1 MHz	0.020	0.040		
Arc Resistance	114	120	sec	UL 746
Flammability	**Dry**	**Water Absorption**	**Unit**	**Test Method**
Flame Rating (0.75 mm)	HB	HB		UL 94

Additional Information

Dry	Water absorption Moisture Content 1.5%

Notes

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

[2] 80x80x3mm

[3] in water

[4] Without Lubrication