

Amilan™ CM1011G-30 Nylon 6

TECHNICAL DATA

Product Description

Standard, GF30%

Uses

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

Processing Method

- Injection Molding

ISO Designation

- >PA6-GF30<

Type

- Nylon6/Reinforced

ASTM & ISO Properties

Physical	Dry	Water Absorption	Unit	Test Method
Density (23°C)	1.36	--	g/cm³	ISO 1183
Spiral Flow ¹	330	--	mm	Internal Method
Molding Shrinkage ²				Internal Method
Across Flow : 3.00 mm	0.50 to 0.80	--	%	
Flow : 3.00 mm	0.20 to 0.40	--	%	
Water Absorption ³				ISO 62
24 hr, 23°C	1.1	--	%	
Saturation, 23°C	6.4	--	%	
Mechanical	Dry	Water Absorption	Unit	Test Method
Tensile Strength				ISO 527-2
-40°C	250	225	MPa	
23°C	185	105	MPa	
80°C	100	70	MPa	
Tensile Strain				ISO 527-2
Break, -40°C	3.0	3.0	%	
Break, 23°C	3.0	4.0	%	
Break, 80°C	4.0	4.5	%	
Flexural Modulus				ISO 178
-40°C	11800	9800	MPa	
23°C	9500	5100	MPa	
80°C	4700	3500	MPa	
Flexural Stress				ISO 178
-40°C	325	315	MPa	
23°C	280	145	MPa	
80°C	155	105	MPa	
Compressive Stress				ISO 604
-40°C	250	210	MPa	
23°C	180	120	MPa	
80°C	95	70	MPa	
Shear Strength (23°C)	85	--	MPa	ASTM D732
Taber Abrasion Resistance				ISO 9352
1000 Cycles	12	--	mg	

Mechanical	Dry	Water Absorption	Unit	Test Method
Coefficient of Friction - vs. Metal ⁴	0.35	--		Suzuki Method
Impact	Dry	Water Absorption	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	10.0	16.5	kJ/m²	
23°C	15.0	22.5	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179
-40°C	70.0	80.0	kJ/m²	
23°C	80.0	100.0	kJ/m²	
Hardness	Dry	Water Absorption	Unit	Test Method
Rockwell Hardness				ISO 2039-2
M-Scale, 23°C	93	--		
R-Scale, 23°C	120	--		
Thermal	Dry	Water Absorption	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	224	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	215	--	°C	ISO 75-2/A
Melting Temperature	225	--	°C	DSC
Specific Heat	1600	--	J/kg/°C	
Thermal Conductivity	0.38	--	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	ohms·m	IEC 60093
Electric Strength	20	18	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz	4.9	10.7		
23°C, 1 kHz	4.6	7.9		
23°C, 1 MHz	4.0	4.3		
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.030	0.170		
23°C, 1 kHz	0.030	0.180		
23°C, 1 MHz	0.030	0.070		
Arc Resistance	131	137	sec	UL 746
Flammability	Dry	Water Absorption	Unit	Test Method
Flame Rating (1.5 mm)	HB	HB		UL 94
Additional Information				
Dry	Water Absorption Moisture Content 2.5%			

Toray Industries, Inc.

