

Amilan™ CM1011G-15 Nylon 6

TECHNICAL DATA

Product Description

Standard, GF15%

Uses

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

Processing Method

- Injection Molding

ISO Designation

- >PA6-GF15<

Type

- Nylon6/Reinforced

ASTM & ISO Properties

Physical	Dry	Water Absorption	Unit	Test Method
Density (23°C)	1.25	--	g/cm³	ISO 1183
Spiral Flow ¹	470	--	mm	Internal Method
Molding Shrinkage ²				Internal Method
Across Flow : 3.00 mm	0.70 to 1.10	--	%	
Flow : 3.00 mm	0.50 to 0.70	--	%	
Water Absorption ³				ISO 62
24 hr, 23°C	1.3	--	%	
Saturation, 23°C	8.3	--	%	
Mechanical	Dry	Water Absorption	Unit	Test Method
Tensile Strength				ISO 527-2
-40°C	150	120	MPa	
23°C	130	65	MPa	
80°C	55	30	MPa	
Tensile Strain				ISO 527-2
Break, -40°C	2.0	5.0	%	
Break, 23°C	2.5	6.0	%	
Break, 80°C	6.0	7.5	%	
Flexural Modulus				ISO 178
-40°C	7300	5900	MPa	
23°C	5800	2700	MPa	
80°C	2300	1700	MPa	
Flexural Stress				ISO 178
-40°C	245	--	MPa	
23°C	200	100	MPa	
80°C	100	50	MPa	
Compressive Stress				ISO 604
-40°C	220	140	MPa	
23°C	150	75	MPa	
80°C	85	45	MPa	
Shear Strength (23°C)	105	--	MPa	ASTM D732
Taber Abrasion Resistance				ISO 9352
1000 Cycles	10	--	mg	
Coefficient of Friction - vs. Metal ⁴	0.30	--		Suzuki Method

Impact	Dry	Water Absorption	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	6.0	7.0	kJ/m ²	
23°C	9.0	9.5	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-40°C	20.0	25.0	kJ/m ²	
23°C	50.0	60.0	kJ/m ²	
Hardness	Dry	Water Absorption	Unit	Test Method
Rockwell Hardness				ISO 2039-2
M-Scale, 23°C	90	--		
R-Scale, 23°C	119	--		
Thermal	Dry	Water Absorption	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	210	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	175	--	°C	ISO 75-2/A
Melting Temperature	225	--	°C	DSC
Specific Heat	1700	--	J/kg/°C	
Thermal Conductivity	0.31	--	W/m/K	
Coefficient of Linear Thermal Expansion	4.5	--	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	--	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz	4.5	--		
23°C, 1 kHz	4.3	--		
23°C, 1 MHz	3.7	--		
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.050	--		
23°C, 1 kHz	0.040	--		
23°C, 1 MHz	0.030	--		
Arc Resistance	120	--	sec	UL 746
Flammability	Dry	Water Absorption	Unit	Test Method
Flame Rating ⁵ (Equivalent)	HB	HB		Internal Method
Additional Information				
Dry	Water Absorption Moisture Content 3.0%			

Toray Industries, Inc.

