

Amilan® CM1011G-15

Polyamide 6
Toray Resin Company

Message:

Amilan® CM1011G-15 is a Polyamide 6 (Nylon 6) product filled with 15% glass fiber. It is available in Asia Pacific, Europe, or North America. Typical application: Automotive. Primary characteristic: flame rated.

General Information				
Filler / Reinforcement		Glass Fiber,15% Filler by Weight		
Part Marking Code		>PA6-GF15<		
Physical	Dry	Conditioned	Unit	Test Method
Density (23°C)	1.25	--	g/cm ³	ISO 1183
Molding Shrinkage				Internal Method
Across Flow : 3.00 mm ¹	0.70 to 1.1	--	%	
Flow : 3.00 mm ²	0.50 to 0.70	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.3	--	%	
Saturation, 23°C	8.3	--	%	
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness				ISO 2039-2
M-Scale, 23°C	90	--		
R-Scale, 23°C	119	--		
R-Scale, 80°C	10	--		
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Stress				ISO 527-2
-40°C	150	120	MPa	
23°C	130	65.0	MPa	
80°C	55.0	30.0	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	50.0	MPa	

Compressive Stress				ISO 604
-40°C	220	140	MPa	
23°C	150	75.0	MPa	
80°C	85.0	45.0	MPa	
Shear Strength (23°C)	105	--	MPa	ASTM D732
Taber Abrasion Resistance (1000 Cycles)	0.300	--	mg	ISO 9352
Coefficient of Friction - vs. Metal ³	0.150	--		Suzuki Method
Impact	Dry	Conditioned	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	25	kJ/m ²	
23°C	50	60	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature (0.45 MPa, Unannealed)				
	210	--	°C	ISO 75-2/B
Melting Temperature	225	--	°C	DSC
CLTE - Flow	4.5E-5	--	cm/cm/°C	ISO 11359-2
Specific Heat	1700	--	J/kg/°C	
Thermal Conductivity	0.31	--	W/m/K	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+15	1.0E+12	ohms · cm	IEC 60093
Electric Strength	20	--	kV/mm	IEC 60243-1
Dielectric Constant ⁴				IEC 60250
23°C, 50 Hz	4.50	--		
23°C, 1 kHz	4.30	--		
23°C, 1 MHz	3.70	--		
Dissipation Factor ⁵				IEC 60250
23°C, 50 Hz	0.050	--		
23°C, 1 kHz	0.040	--		
23°C, 1 MHz	0.030	--		
Arc Resistance ⁶	120	--	sec	UL 746
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating	HB	--		UL 94
NOTE				
1.	80x80x3			
2.	80x80x3mm			
3.	Without Lubrication			

4.	60% RH
5.	60% RH
6.	Tungsten Electrode

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