

Amilan™ CM1016G-30

Toray Industries, Inc. - Polyamide 6

General Information

Product Description

Heat stabilized, GF30%

General

Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight
Additive	• Heat Stabilizer
Features	• Chemical Resistant • High Heat Resistance • High Strength
Uses	• Automotive Applications • Filters • Automotive Under the Hood • Furniture
Processing Method	• Injection Molding
ISO Designation	• >PA6-GF30<

Properties¹

Physical	Dry	Conditioned	Unit	Test Method
Density (73°F)	1.36	--	g/cm ³	ISO 1183
Spiral Flow ²	12.6	--	in	Internal Method
Molding Shrinkage ³				Internal Method
Across Flow : 0.118 in	0.50 to 0.80	--	%	
Flow : 0.118 in	0.20 to 0.40	--	%	
Water Absorption ⁴ (24 hr, 73°F)	1.1	--	%	ISO 62
Water Absorption ⁴				ISO 62
Saturation, 73°F	6.4	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Stress				ISO 527-2
-40°F	36300	32600	psi	
73°F	26800	15200	psi	
176°F	14500	10200	psi	
Tensile Strain				ISO 527-2
Break, -40°F	3.0	3.0	%	
Break, 73°F	3.0	4.0	%	
Break, 176°F	4.0	4.5	%	
Flexural Modulus				ISO 178
-40°F	1.71E+6	1.42E+6	psi	
73°F	1.38E+6	740000	psi	
176°F	682000	508000	psi	
Flexural Stress				ISO 178
-40°F	47100	45700	psi	
73°F	40600	21000	psi	
176°F	22500	15200	psi	
Compressive Stress				ISO 604
-40°F	36300	30500	psi	
73°F	26100	17400	psi	
176°F	13800	10200	psi	
Shear Strength (73°F)	12300	--	psi	ASTM D732

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Mechanical	Dry	Conditioned	Unit	Test Method
Taber Abrasion Resistance 1000 Cycles	12.0	--	mg	ISO 9352
Coefficient of Friction - vs. Metal ⁵	0.35	--		Suzuki Method
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°F	4.8	7.9	ft·lb/in ²	
73°F	7.1	11	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-40°F	33	38	ft·lb/in ²	
73°F	38	48	ft·lb/in ²	
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness				ISO 2039-2
M-Scale, 73°F	93	--		
R-Scale, 73°F	120	--		
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load 66 psi, Unannealed	435	--	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed	419	--	°F	ISO 75-2/A
Melting Temperature	437	--	°F	DSC
Specific Heat	0.382	--	Btu/lb/°F	
Thermal Conductivity	2.6	--	Btu·in/hr/ft ² /°F	
Coefficient of Linear Thermal Expansion	2.0 to 3.0	--	cm ⁻⁵ /cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Electric Strength	510	460	V/mil	IEC 60243-1
Dielectric Constant				IEC 60250
73°F, 50 Hz	4.90	10.7		
73°F, 1 kHz	4.60	7.90		
73°F, 1 MHz	4.00	4.30		
Dissipation Factor				IEC 60250
73°F, 50 Hz	0.030	0.17		
73°F, 1 kHz	0.030	0.18		
73°F, 1 MHz	0.030	0.070		
Arc Resistance	131	137	sec	UL 746
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.030 in)	HB	HB		UL 94

Additional Information

Dry Water absorption Moisture Content 2.5%

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Melt Temperature: 500°F, Injection Pressure: 1.31E+4 psi, 0.0787 in
- ³ 80x80x3mm
- ⁴ in water
- ⁵ Without Lubrication