Amilan™ CM1001R

Toray Industries, Inc. - Polyamide 6

General Information			
Product Description			
Low warpage, Mineral filler reinforced			
General			
Filler / Reinforcement	• Mineral, 40% Filler by Weight		
Features	• Chemical Resistant	• Low Warpage	
Uses	• Appliance Components • Automotive Applications • Automotive Interior Parts • Construction Applications	• Electrical/Electronic Applications • Office Automation Equipment • Power/Other Tools • Seats	• Sporting Goods • White Goods & Small Appliances
Processing Method	• Injection Molding		
ISO Designation	• >PA6-MD40<		

Properties [1]				
Physical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Density (73°F)	1.51	--	g/cm³	ISO 1183
Molding Shrinkage [2]				Internal Method
Across Flow : 0.118 in	0.80 to 1.0	--	%	
Flow : 0.118 in	0.80 to 1.0	--	%	
Water Absorption [3] (24 hr, 73°F)	0.90	--	%	ISO 62
Water Absorption [3]				ISO 62
Saturation, 73°F	5.8	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Stress				ISO 527-2
-40°F	18900	--	psi	
73°F	13800	7980	psi	
176°F	5800	--	psi	
Tensile Strain				ISO 527-2
Break, -40°F	2.0	--	%	
Break, 73°F	2.5	2.5	%	
Break, 176°F	7.0	--	%	
Flexural Modulus				ISO 178
-40°F	1.00E+6	--	psi	
73°F	841000	334000	psi	
176°F	261000	--	psi	
Flexural Stress				ISO 178
-40°F	23200	--	psi	
73°F	21000	10200	psi	
176°F	8700	--	psi	
Shear Strength (73°F)	10600	8990	psi	ASTM D732
Taber Abrasion Resistance				ISO 9352
1000 Cycles	25.0 to 30.0	--	mg	
Coefficient of Friction - vs. Metal [4]	0.40	--		Suzuki Method

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
73°F	2.4	3.3	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179
-40°F	17	--	ft·lb/in²	
73°F	21	--	ft·lb/in²	
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Rockwell Hardness				ISO 2039-2
M-Scale, 73°F	81	--		
R-Scale, 73°F	119	--		
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load				ISO 75-2/B
66 psi, Unannealed	397	--	°F	
Deflection Temperature Under Load				ISO 75-2/A
264 psi, Unannealed	343	--	°F	
Melting Temperature	437	--	°F	DSC
Coefficient of Linear Thermal Expansion	8.0	--	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	530	--	V/mil	IEC 60243-1
Dielectric Constant				IEC 60250
73°F, 50 Hz	4.60	--		
73°F, 1 kHz	4.50	--		
73°F, 1 MHz	3.80	--		
Dissipation Factor				IEC 60250
73°F, 50 Hz	0.040	--		
73°F, 1 kHz	0.030	--		
73°F, 1 MHz	0.020	--		
Arc Resistance	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 2.1%			

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 80x80x3mm

[3] in water

[4] Without Lubrication