

Amilan™ CM3001G-45 Nylon 66

TECHNICAL DATA

Product Description

Standard, GF45%

Uses

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

Processing Method

- Injection Molding

ISO Designation

- >PA66-GF45<

Type

- Nylon66/Reinforced

ASTM & ISO Properties

Physical	Dry	Water Absorption	Unit	Test Method
Density (23°C)	1.50	--	g/cm³	ISO 1183
Spiral Flow ¹	310	--	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	0.40	--	%	
Saturation, 23°C	4.8	--	%	
Mechanical	Dry	Water Absorption	Unit	Test Method
Tensile Strength				ISO 527-2
-40°C	280	250	MPa	
23°C	220	165	MPa	
80°C	140	115	MPa	
Tensile Strain				ISO 527-2
Break, -40°C	2.5	--	%	
Break, 23°C	3.0	--	%	
Break, 80°C	5.5	--	%	
Flexural Modulus				ISO 178
-40°C	15500	14400	MPa	
23°C	13800	11000	MPa	
80°C	8600	7300	MPa	
Flexural Stress				ISO 178
-40°C	380	350	MPa	
23°C	345	295	MPa	
80°C	230	195	MPa	
Compressive Stress				ISO 604
-40°C	265	--	MPa	
23°C	195	--	MPa	
80°C	120	--	MPa	
Shear Strength (23°C)	105	--	MPa	ASTM D732



Impact	Dry	Water Absorption	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	11.5	12.0	kJ/m ²	
23°C	15.0	16.5	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-40°C	85.0	90.0	kJ/m ²	
23°C	90.0	100.0	kJ/m ²	
Hardness	Dry	Water Absorption	Unit	Test Method
Rockwell Hardness				ISO 2039-2
M-Scale, 23°C	103	--		
R-Scale, 23°C	121	--		
Thermal	Dry	Water Absorption	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	263	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	255	--	°C	ISO 75-2/A
Melting Temperature	265	--	°C	DSC
Specific Heat	1500	--	J/kg/°C	
Thermal Conductivity	0.42	--	W/m/K	
Coefficient of Linear Thermal Expansion	2 to 3	--	cm ³ /cm/°C	ISO 11359-2
Electrical	Dry	Water Absorption	Unit	Test Method
Volume Resistivity	1.0E+13	1.0E+10 to 1.0E+11	ohms·m	IEC 60093
Electric Strength	19	--	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
23°C, 50 Hz	4.7	--		
23°C, 1 kHz	4.5	--		
23°C, 1 MHz	4.1	--		
Dissipation Factor				IEC 60250
23°C, 50 Hz	0.020	--		
23°C, 1 kHz	0.020	--		
23°C, 1 MHz	0.020	--		
Flammability	Dry	Water Absorption	Unit	Test Method
Flame Rating (0.75 mm)	HB	HB		UL 94

Additional Information

Dry Water absorption Moisture Content 1.0%

Notes

¹ Melt Temperature: 290°C, Injection Pressure: 900 bar, 2.00 mm

² 80x80x3mm

³ in water

Toray Industries, Inc.

