Polifil® Nylon 71MR

Polyamide 66

The Plastics Group

Message:

Polifil® GFN/MRN 6/6 reinforced series of compounds offer superior strength, rigidity, and creep resistance. Glass fibers provide excellent thermal and dimensional stability while maintaining good heat and chemical resistance. Polifil® GFN/MRN are excellent candidates for bike components and fuel caps, as well as other automotive components. Standard processing techniques are applicable. Use this information as a guide to aid you in selecting the proper resin for your application. TPG will custom compound and fine-tune our formulations for your application.

General Information			
Filler / Reinforcement	Mineral,40% Filler by Weight		
Features	Good Chemical Resistance Good Creep Resistance Good Dimensional Stability Good Thermal Stability High Heat Resistance High Rigidity High Strength		
Uses	Automotive Applications Caps		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.50	g/cm³	ASTM D792
Molding Shrinkage - Flow (3.18 mm)	0.30	%	ASTM D955
Water Absorption (24 hr)	0.60	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	115		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	4830	MPa	ASTM D638
Tensile Strength (23°C)	88.3	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield, 23°C	3.0	%	
Break, 23°C	12	%	
Flexural Modulus - Tangent (23°C)	3860	MPa	ASTM D790
Flexural Strength (23°C)	138	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	59	J/m	ASTM D256
Gardner Impact (23°C, 12.7 mm)	1.36	J	ASTM D3029

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	245	°C	
1.8 MPa, Unannealed	225	°C	

Injection	Nominal Value	Unit
Drying Temperature	104	°C
Drying Time	2.0	hr
Rear Temperature	288	°C
Middle Temperature	274	°C
Front Temperature	282	°C
Nozzle Temperature	288	°C
Processing (Melt) Temp	282 to 304	°C
Mold Temperature	37.8 to 93.3	°C
Injection Rate	Fast	
Back Pressure	0.172 to 0.517	MPa
Screw Speed	30 to 60	rpm

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