

Polifil® Nylon 638L

Polyamide 66

The Plastics Group

Message:

Polifil® Nylon 6/6 combines good abrasion and chemical resistance. These properties have been proven to work in the following applications: valves, bearings, and bearing cages. 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			
Features	Good Abrasion Resistance		
	Good Chemical Resistance		
Uses	Bearings		
	Valves/Valve Parts		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14	g/cm ³	ASTM D792
Molding Shrinkage - Flow (3.18 mm)	1.5	%	ASTM D955
Water Absorption (24 hr)	1.5	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	119		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	3030	MPa	ASTM D638
Tensile Strength (23°C)	81.4	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield, 23°C	5.0	%	
Break, 23°C	50	%	
Flexural Modulus - Tangent (23°C)	2800	MPa	ASTM D790
Flexural Strength (23°C)	89.6	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	53	J/m	ASTM D256
Gardner Impact (23°C, 12.7 mm)	6.78	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	235	°C	
1.8 MPa, Unannealed	90.0	°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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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

