

# Polifil® PP M-40

Polypropylene Homopolymer

The Plastics Group

## Message:

Polifil® M series compounds are homopolymer polypropylene resins reinforced with mica. They combine an improved range of high-stiffness values with low mold shrinkage. These compounds are used in large area broad span applications where high modulus values are required and retained. 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	Mica,40% Filler by Weight		
Features	High Stiffness		
	Homopolymer		
	Low Shrinkage		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.23	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	8.0 to 12	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.80	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	108		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	4140	MPa	ASTM D638
Tensile Strength (23°C)	30.3	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield, 23°C	3.0	%	
Break, 23°C	6.0	%	
Flexural Modulus - Tangent (23°C)	5170	MPa	ASTM D790
Flexural Strength (23°C)	55.2	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	47	J/m	ASTM D256
Gardner Impact (23°C, 12.7 mm)	0.452	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	143	°C	
1.8 MPa, Unannealed	116	°C	
Injection	Nominal Value	Unit	
Drying Temperature	82.2 to 104	°C	

Drying Time	1.0 to 2.0	hr
Rear Temperature	199 to 210	°C
Middle Temperature	210 to 221	°C
Front Temperature	221 to 232	°C
Nozzle Temperature	227 to 232	°C
Processing (Melt) Temp	204 to 260	°C
Mold Temperature	10.0 to 26.7	°C
Injection Rate	Fast	
Back Pressure	0.345 to 0.689	MPa
Screw Speed	50 to 100	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

