

Borealis PP MD441U

Polypropylene

Borealis AG

Message:

MD441U is a 40% mineral filled polypropylene compound intended for injection moulding.
This material has excellent balanced mechanical properties and a medium melt flow rate.

General Information			
UL YellowCard	E108112-218652		
Filler / Reinforcement	Mineral filler, 40% filler by weight		
Additive	heat stabilizer		
Features	Good dimensional stability		
	Workability, good		
	Medium liquidity		
	Heat resistance, high		
	Low shrinkage		
Uses	Electric Motor Housings		
	Home appliance components		
	Parts under the hood of a car		
	Car interior parts		
UL File Number	E108112		
Forms	Particle		
Processing Method	Injection molding		
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
	Secant Modulus vs. Strain (ISO 11403-1)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Density	1.22	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	6.0	g/10 min	ISO 1133
Molding Shrinkage	0.87	%	Internal method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (Injection Molded)	4200	MPa	ISO 527-2/1
Tensile Stress (Yield, Injection Molded)	32.0	MPa	ISO 527-2/50
Tensile Strain (Yield, Injection Molded)	5.0	%	ISO 527-2/50
Flexural Modulus ¹ (Injection Molded)	4700	MPa	ISO 178
Flexural Stress (Injection Molded)	55.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength			ISO 179/1eA
-20°C	1.2	kJ/m ²	ISO 179/1eA
23°C	2.4	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-20°C	10	kJ/m ²	ISO 179/1eU
23°C	20	kJ/m ²	ISO 179/1eU
Notched Izod Impact			ISO 180/1A
-20°C	1.0	kJ/m ²	ISO 180/1A
23°C	2.2	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	80.0	°C	ISO 75-2/A
Vicat Softening Temperature	100	°C	ISO 306/B50
Melt Energy	69.3	kJ/kg	ISO 11357
Atomization-16 hrs (100°C)	9.0E-4	g	DIN 75201
Emission	29.0	µgC/g	VDA 277
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	2.0	hr	
Hopper Temperature	40.0 - 80.0	°C	
Processing (Melt) Temp	220 - 260	°C	
Mold Temperature	40.0 - 80.0	°C	
Holding Pressure	30.0 - 60.0	MPa	
Injection instructions			
Back pressure: Low to mediumScrew speed: Low to mediumFlow front speed: 100 - 200 mm/s			
NOTE			
1.	2.0 mm/min		

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