

# MAGNUM™ 3416NA

## ABS Resin

### Overview

High Heat, Low Gloss ABS resin with good practical toughness for injection molded automotive interior applications.

Applications:

- Door panels, Floor consoles, Instrument Panel & Sidewall trim parts.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.05 g/cm <sup>3</sup>	1.05 g/cm <sup>3</sup>	ISO 1183
Apparent (Bulk) Density	0.66 g/cm <sup>3</sup>	0.66 g/cm <sup>3</sup>	ISO 60
Melt Mass-Flow Rate (MFR)			ISO 1133
220°C/10.0 kg	8.0 g/10 min	8.0 g/10 min	
230°C/3.8 kg	2.6 g/10 min	2.6 g/10 min	
Molding Shrinkage			ISO 294-4
Across Flow	5.5E-3 in/in	0.55 %	
Flow	6.0E-3 in/in	0.60 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	316000 psi	2180 MPa	ISO 527-2/1
Tensile Stress (Yield)	6240 psi	43.0 MPa	ISO 527-2/50
Tensile Strain (Yield)	3.0 %	3.0 %	ISO 527-2/50
Flexural Modulus <sup>1, 2</sup>	328000 psi	2260 MPa	ISO 178
Flexural Stress <sup>1, 2</sup>	9570 psi	66.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	5.2 ft-lb/in <sup>2</sup>	11 kJ/m <sup>2</sup>	
73°F (23°C)	8.6 ft-lb/in <sup>2</sup>	18 kJ/m <sup>2</sup>	
Notched Izod Impact Strength			ISO 180/A
-22°F (-30°C)	5.7 ft-lb/in <sup>2</sup>	12 kJ/m <sup>2</sup>	
73°F (23°C)	9.5 ft-lb/in <sup>2</sup>	20 kJ/m <sup>2</sup>	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			ISO 75-2/A
264 psi (1.8 MPa), Unannealed	185 °F	85.0 °C	
Vicat Softening Temperature	225 °F	107 °C	ISO 306/B50
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Rate <sup>3</sup> (0.0787 in (2.00 mm))	0.98 in/min	25 mm/min	ISO 3795
Carbon Emission <sup>3</sup>	10.0 µg/g	10.0 µg/g	VDA 277
Fogging <sup>3</sup> (212°F (100°C))	94 %	94 %	ISO 6452
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	185 °F	85 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Rear Temperature	469 °F	243 °C	
Middle Temperature	489 °F	254 °C	
Front Temperature	500 °F	260 °C	
Nozzle Temperature	489 °F	254 °C	
Processing (Melt) Temp	489 to 520 °F	254 to 271 °C	
Mold Temperature	100 to 140 °F	38 to 60 °C	