

MAGNUM™ 375 HP ABS Resin

Overview High Heat, Low Gloss, Medium Impact ABS resin for injection molded automotive interior trim applications.

Applications

- Chrysler-MSDB-300, MSDB-191
- Ford-WSB-M4D690-A
- GM- GMP.ABS.009

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.06 g/cm ³	1.06 g/cm ³	ASTM D792 ISO 1183/B
Apparent Density	0.68 g/cm ³	0.68 g/cm ³	ASTM D1895
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	2.1 g/10 min	2.1 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	0.0056 in/in	0.56 %	
Flow	0.0057 in/in	0.57 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
--	334000 psi	2300 MPa	ASTM D638 ¹
--	338000 psi	2330 MPa	ISO 527-2
Tensile Strength			
Yield	7100 psi	49.0 MPa	ASTM D638 ¹
Yield	6820 psi	47.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield	3.1 %	3.1 %	ASTM D638 ¹
Yield	2.9 %	2.9 %	ISO 527-2/50
Break	8.8 %	8.8 %	ASTM D638 ¹
Break	3.5 %	3.5 %	ISO 527-2/50
Flexural Modulus			
--	349000 psi	2410 MPa	ASTM D790 ²
--	347000 psi	2390 MPa	ISO 178 ^{3, 4}
Flexural Strength			
--	11100 psi	76.5 MPa	ASTM D790 ²
--	10400 psi	72.0 MPa	ISO 178 ^{3, 5}
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 ²	11 kJ/m ²	
73°F (23°C)	10 ft·lb/in ²	22 kJ/m ²	
Notched Izod Impact			
-22°F (-30°C)	2.5 ft·lb/in	130 J/m	ASTM D256
73°F (23°C)	4.1 ft·lb/in	220 J/m	ASTM D256
-22°F (-30°C)	4.8 ft·lb/in ²	10 kJ/m ²	ISO 180/A
73°F (23°C)	12 ft·lb/in ²	25 kJ/m ²	ISO 180/A
Instrumented Dart Impact			ASTM D3763
-22°F (-30°C), Peak Energy	204 in·lb	23.0 J	
73°F (23°C), Peak Energy	266 in·lb	30.0 J	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	211 °F	99.4 °C	ASTM D648
66 psi (0.45 MPa), Unannealed	208 °F	98.0 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	179 °F	81.7 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	183 °F	83.9 °C	ISO 75-2/A
Vicat Softening Temperature	217 °F	103 °C	ISO 306/B50 ASTM D1525 ⁶
CLTE			ASTM E831
Flow: -40 to 212°F (-40 to 100°C)	0.000043 in/in/°F	0.000077 cm/cm/°C	
Transverse: -40 to 212°F (-40 to 100°C)	0.000053 in/in/°F	0.000095 cm/cm/°C	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
FMVSS Flammability	1.2 in/min	30 mm/min	FMVSS 302 ⁷

Additional Information

Tests conducted on 0.125 inch (3.2 mm) injection molded specimen, unannealed, unless noted.

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	180 to 185 °F	82.0 to 85.0 °C
Drying Time	> 2.0 hr	> 2.0 hr
Rear Temperature	460 °F	238 °C
Middle Temperature	480 °F	249 °C
Front Temperature	490 °F	254 °C
Nozzle Temperature	480 to 490 °F	249 to 254 °C
Processing (Melt) Temp	469 to 520 °F	243 to 271 °C

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ 2.0 in/min (51 mm/min)

² Method I (3 point load), 0.051 in/min (1.3 mm/min)

³ 0.079 in/min (2.0 mm/min)

⁴ 3-points

⁵ 3-point

⁶ Rate A (50°C/h), Loading 2 (50 N)

⁷ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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