

MAGNUM™ 3904 ABS Resin

Overview

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MAGNUM™ 3904 is a medium heat ABS. Its very high impact properties make it suitable for main interior automotive applications. MAGNUM™ 3904 is available in Europe and China, locally produced in major car production regions. Due to its excellent extrusion capabilities, this product is also used for large thermoformed parts, for Truck and Bus applications.

Benefits:

- Lot to lot consistency allowing for optimal machine parameters settings from the start
- Self-coloring enabling improvement of costs by using less pigments and lowering your logistic costs
- Low VOC allowing a better interior air quality facing increasing regulatory and OEMs constraints.
- Heat stability during wide range of processing temperatures: enhanced part design freedom
- Contains low amounts of gels providing for excellent thermoformability with low levels of scrap

Applications:

- Main interior automotive applications requiring high impact
- Various interior trims, under the beltline
- Large sized applications in commercial transportation

Complies with:

U.S. FDA FCN 1525

Automotive Specifications

- BMW GS 93016
- DAIMLER DBL 5404.03
- GM QK 002022 Color: Natural
- VAG VW-TL 527

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.05 g/cm ³	1.05 g/cm ³	ISO 1183/B
Apparent (Bulk) Density	0.65 g/cm ³	0.65 g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR)			ASTM D1238
220°C/10.0 kg	4.5 g/10 min	4.5 g/10 min	
220°C/5.0 kg	1.2 g/10 min	1.2 g/10 min	
230°C/3.8 kg	1.2 g/10 min	1.2 g/10 min	
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	4.70 cm ³ /10min	4.70 cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3 in/in	0.40 to 0.70 %	ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
0.126 in (3.20 mm), Injection Molded	264000 psi	1820 MPa	ISO 527-2
Injection Molded	273000 psi	1880 MPa	ASTM D638
Tensile Stress			
Yield, Injection Molded	5660 psi	39.0 MPa	ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	5370 psi	37.0 MPa	ISO 527-2/50
Yield, 0.126 in (3.20 mm), Injection Molded	5660 psi	39.0 MPa	ISO 527-2/100
Tensile Strain			
Yield, Injection Molded	3.6 %	3.6 %	ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	2.6 %	2.6 %	ISO 527-2/50
Yield, 0.126 in (3.20 mm), Injection Molded	2.8 %	2.8 %	ISO 527-2/100
Flexural Modulus			
Injection Molded	310000 psi	2140 MPa	ASTM D790
0.126 in (3.20 mm), Injection Molded ^{1, 2}	276000 psi	1900 MPa	ISO 178

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Flexural Stress			
Injection Molded	8410 psi	58.0 MPa	ASTM D790
0.126 in (3.20 mm), Injection Molded ^{1, 2}	8410 psi	58.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			
-22°F (-30°C), Injection Molded	5.7 ft-lb/in ²	12 kJ/m ²	ISO 179/2C
-22°F (-30°C), Injection Molded	8.6 ft-lb/in ²	18 kJ/m ²	ISO 179/1eA
73°F (23°C), Injection Molded	18 ft-lb/in ²	37 kJ/m ²	ISO 179/1eA
73°F (23°C), Injection Molded	10 ft-lb/in ²	22 kJ/m ²	ISO 179/2C
Notched Izod Impact			
Injection Molded	10 ft-lb/in	540 J/m	ASTM D256
-22°F (-30°C), Injection Molded	8.1 ft-lb/in ²	17 kJ/m ²	ISO 180/A
73°F (23°C), Injection Molded	20 ft-lb/in ²	42 kJ/m ²	ISO 180/A
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
264 psi (1.8 MPa), Annealed	207 °F	97.0 °C	ISO 75-2/A
Vicat Softening Temperature			
	207 °F	97.0 °C	ASTM D1525 ISO 306/B50
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Rate ³ (0.0787 in (2.00 mm))			
	1.6 in/min	40 mm/min	ISO 3795
Flame Rating ³			
0.06 in (1.5 mm)	HB	HB	UL 94
0.12 in (3.0 mm)	HB	HB	
Carbon Emission ³			
	20.0 µg/g	20.0 µg/g	VDA 277
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gardner Gloss (60°)			
	71	71	ASTM D523

Notes

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

¹ 0.079 in/min (2.0 mm/min)

² 3-points

³ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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