

MAGNUM™ 8391 MED ABS Resin

Overview

MAGNUM™ 8391 MED ABS combines an excellent glossy appearance with high flow and medium impact performance. The mass (continuous process) ABS technology ensures an ABS resin that combines excellent processability with a stable light base color that is ideal for self-coloring. MAGNUM 8391 MED natural resin has undergone biocompatibility testing based on ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications.

Applications:

- Medical Applications

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.05 g/cm ³	1.05 g/cm ³	ASTM D792 ISO 1183/B
Apparent (Bulk) Density	0.65 g/cm ³	0.65 g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR)			
220°C/10.0 kg	28 g/10 min	28 g/10 min	ASTM D1238 ISO 1133
230°C/3.8 kg	8.0 g/10 min	8.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3 in/in	0.40 to 0.70 %	ASTM D955 ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			ISO 527-2
0.126 in (3.20 mm), Injection Molded	339000 psi	2340 MPa	
Tensile Strength			
Yield ¹	6960 psi	48.0 MPa	ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	6530 psi	45.0 MPa	ISO 527-2/50
Yield, 0.126 in (3.20 mm), Injection Molded	6820 psi	47.0 MPa	ISO 527-2/100
Break ¹	5080 psi	35.0 MPa	ASTM D638
Tensile Elongation			
Yield ¹	2.7 %	2.7 %	ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	2.5 %	2.5 %	ISO 527-2/50
Yield, 0.126 in (3.20 mm), Injection Molded	2.6 %	2.6 %	ISO 527-2/100
Break ¹	8.7 %	8.7 %	ASTM D638
Flexural Modulus			
-- ²	360000 psi	2480 MPa	ASTM D790
0.126 in (3.20 mm), Injection Molded ^{3, 4}	348000 psi	2400 MPa	ISO 178
Flexural Strength			
-- ²	10900 psi	75.0 MPa	ASTM D790
0.126 in (3.20 mm), Injection Molded ^{3, 4}	10200 psi	70.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C), Injection Molded	4.3 ft-lb/in ²	9.0 kJ/m ²	
73°F (23°C), Injection Molded	9.0 ft-lb/in ²	19 kJ/m ²	
Notched Izod Impact			
73°F (23°C)	4.4 ft-lb/in	230 J/m	ASTM D256
-22°F (-30°C), Injection Molded	4.3 ft-lb/in ²	9.0 kJ/m ²	ISO 180/A
73°F (23°C), Injection Molded	9.0 ft-lb/in ²	19 kJ/m ²	ISO 180/A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-Scale)	108	108	ASTM D785

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	189 °F	87.0 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	165 °F	74.0 °C	ASTM D648
264 psi (1.8 MPa), Annealed	203 °F	95.0 °C	ISO 75-2/A
Vicat Softening Temperature			
--	210 °F	99.0 °C	ASTM D1525 ⁵
--	203 °F	95.0 °C	ISO 306/B50
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Rate ⁶ (0.0787 in (2.00 mm))	2.4 in/min	60 mm/min	ISO 3795
Flame Rating ⁶			UL 94
0.06 in (1.5 mm)	HB	HB	
0.12 in (3.0 mm)	HB	HB	

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 (50 mm/min)

² 0.051 in/min (1.3 mm/min)

³ 0.079 in/min (2.0 mm/min)

⁴ 3-points

⁵ Rate B (120°C/h), Loading 1 (10 N)

⁶ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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