



MAGNUM 1040

ABS Resin

MAGNUM™ 1040 ABS resin is often suitable for applications requiring Izod impact strengths of 12 ft-lb/in. This low gloss, very high impact ABS resin is one of the more viscous resins in this product family having a melt flow rate of approximately 2.2 g/10 min. Automotive MAGNUM ABS resins offer a wide range of gloss, viscosity, impact strength and heat properties for use in numerous automotive applications. Melt flow rates from 1 to 12 g/10 min, impact strengths from 2.5 to 12 ft-lb/in and heat distortion temperatures from 165°F to 190°F are available. Available primarily as natural plus concentrates, MAGNUM ABS resins are used in a wide variety of automotive applications.

Applications

- Door skills
- Glove boxes
- Instrument panels
- Consoles
- Pillars
- Exterior trim parts

Physical Properties ⁽¹⁾	Test Method	English Units	SI Units
Specific Gravity	ASTM D 792	1.04	1.04
Melt Flow Rate, 230°C/3.8kg	ASTM D 1238	2.2 g/10 min	2.2 g/10 min
Mold Shrinkage, Flow	ASTM D 955	0.004-0.007 in/in	4.0-7.0 cm/cm
Mechanical Properties ⁽²⁾			
Tensile Strength at Yield	ASTM D 638	6,000 psi	41 MPa
Tensile Modulus, 1 mm/min	ASTM D 638	290,000 psi	2000 MPa
Tensile Strength at Break	ASTM D 638	4,600 psi	32 MPa
Tensile Elongation at Yield	ASTM D 638	3.0 %	3.0 %
Flexural Strength, 3-points, 2 mm/min	ASTM D 790	9,000 psi	62.1 MPa
Flexural Modulus, 3-points, 2 mm/min	ASTM D 790	300,000 psi	2070 MPa
Notched Izod Impact	ASTM D 256		
73°F (23°C)		12.00 ft-lb/in	641 J/m
0°F (-18°C)		5.00 ft-lb/in	267 J/m
Instrumented Dart Impact	ASTM D 3763		
Peak energy @ 73°F (23°C)		240 in-lb	27 J
Total energy @ 73°F (23°C)		450 in-lb	51 J
Thermal Properties			
Deflection Temperature Under Load	ASTM D 648		
66 psi (0.45 MPa), unannealed		200°F	93°C
264 psi (1.8 MPa), unannealed		175°F	79°C
Vicat Softening Point, 120°C/hr, 10N	ASTM D 1525	225°F	107°C
Processing Conditions			
Drying Temperature, 2 to 4 hours		180-190°F	82-88°C
Melt Temperature		425-525°F	218-274°C
Mold Temperature		80-140°F	27-60°C
Back Pressure		50-100 psi	0.345-6.689 MPa
Clamp Tonnage		2.0-5.0 tons/in ²	28-69 MPa
Screw L/D Ratio		20.0:1.0	20.0:1.0
Screw Compression Ratio		1.5:1.0 to 3.5:1.0	1.5:1.0 to 3.5:1.0

1. Typical properties; not to be construed as sales specifications. Fabrication conditions, part design, additives, processing aids, finishing materials, and use conditions can all affect the integrity, performance, and regulatory status of finished goods.
2. Tests conducted on 0.125 inch (3.2 mm) injection molded specimen, unannealed, unless noted.
3. This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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