

## Styron Magnum™ 1150 EM Acrylonitrile Butadiene Styrene (ABS)

Category : Polymer , Thermoplastic , ABS Polymer

### Material Notes:

Overview: MAGNUM™ ABS resins are thermoplastic materials which provide an excellent balance to processability, impact resistance and heat resistance as imparted by the various polymer compositions. MAGNUM ABS resin are available in a wide range of melt flow rates, impact strength and heat resistance for both high and low gloss applications manufactured by injection molding, sheet or profile extrusion and thermoforming processes. The automotive grades of MAGNUM ABS resins offer a wide range of gloss, viscosities, 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 to 190° F are available. Available primarily as natural plus concentrates, MAGNUM ABS resins are used in a wide variety of automotive applications including structural instrument panels, consoles, pillars and exterior trim parts requiring painting and plating. Within the MAGNUM ABS product line, MAGNUM 1150 EM ABS resin is a high impact, medium heat, low gloss resin. MAGNUM 1150 EM has improved low temperature impact strength over standard grades of ABS. MAGNUM 1150 EM is used in applications like pillars and instrument panel trim. Information provided by StyronThis product line was spun off from Dow Chemical to Styron in 2010.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Styron-Magnum-1150-EM-Acrylonitrile-Butadiene-Styrene-ABS.php](http://www.lookpolymers.com/polymer_Styron-Magnum-1150-EM-Acrylonitrile-Butadiene-Styrene-ABS.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.03 g/cc	1.03 g/cc	ASTM D792
Maximum Moisture Content	0.10	0.10	
Linear Mold Shrinkage, Flow	0.0060 - 0.0070 cm/cm @Thickness 3.20 mm	0.0060 - 0.0070 in/in @Thickness 0.126 in	ASTM D955
Melt Flow	0.90 g/10 min @Load 3.80 kg, Temperature 230 °C	0.90 g/10 min @Load 8.38 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	36.5 MPa @Thickness 3.20 mm	5290 psi @Thickness 0.126 in	51mm/min; ASTM D638
Elongation at Break	30 % @Thickness 3.20 mm	30 % @Thickness 0.126 in	51mm/min; ASTM D638
Elongation at Yield	3.0 % @Thickness 3.20 mm	3.0 % @Thickness 0.126 in	51mm/min; ASTM D638
Tensile Modulus	1.75 GPa @Thickness 3.20 mm	254 ksi @Thickness 0.126 in	51mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
<b>Flexural Strength</b>	58.9 MPa	8540 psi	5.1mm/min; ASTM D790
	@Thickness 3.20 mm	@Thickness 0.126 in	
<b>Flexural Modulus</b>	1.98 GPa	287 ksi	5.1mm/min; ASTM D790
	@Thickness 3.20 mm	@Thickness 0.126 in	
<b>Izod Impact, Notched</b>	3.40 J/cm	6.37 ft-lb/in	ASTM D256
	@Thickness 3.20 mm, Temperature -29.0 °C	@Thickness 0.126 in, Temperature -20.2 °F	
	5.60 J/cm	10.5 ft-lb/in	ASTM D256
	@Thickness 32.0 mm, Temperature 23.0 °C	@Thickness 1.26 in, Temperature 73.4 °F	
<b>Dart Drop, Total Energy</b>	29.9 J	22.1 ft-lb	6.71 m/sec, Peak Energy; ASTM D3763
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	
	32.8 J	24.2 ft-lb	6.71 m/sec, Peak Energy; ASTM D3763
	@Thickness 3.20 mm, Temperature -29.0 °C	@Thickness 0.126 in, Temperature -20.2 °F	
	42.9 J	31.6 ft-lb	6.71 m/sec, Total Energy; ASTM D3763
	@Thickness 3.20 mm, Temperature -29.0 °C	@Thickness 0.126 in, Temperature -20.2 °F	
	45.2 J	33.3 ft-lb	6.71 m/sec, Total Energy; ASTM D3763
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
<b>CTE, linear, Parallel to Flow</b>	0.950 µm/m-°C	0.528 µin/in-°F	ASTM D696
	@Thickness 3.20 mm	@Thickness 0.126 in	
<b>Deflection Temperature at 0.46 MPa (66 psi)</b>	96.1 °C	205 °F	Unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	111 °C	232 °F	Annealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
<b>Deflection Temperature at 1.8 MPa (264 psi)</b>	82.2 °C	180 °F	Unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	108 °C	226 °F	Annealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
<b>Vicat Softening Point</b>	112 °C	234 °F	ASTM D1525

Thermal Properties	Metric	English	Comments
Processing Properties	Metric	English	Comments
Melt Temperature	218 - 274 °C	424 - 525 °F	
Mold Temperature	26.7 - 60.0 °C	80.1 - 140 °F	
Drying Temperature	82.2 °C	180 °F	
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	
Back Pressure	1.03 - 3.45 MPa	149 - 500 psi	

Descriptive Properties	Value	Comments
Clamp Tonnage	2.8-6.9 kN/cm <sup>2</sup>	
Screw Compression Ratio	1.5:1 to 3.5:1	
Screw L/D Ratio	20:1	

## Contact Songhan Plastic Technology Co.,Ltd.

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