

Styron MAGNUM, 375 HP Acrylonitrile Butadiene Styrene (ABS) Resin

Category : Polymer , Thermoplastic , ABS Polymer

Material Notes:

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

Chrysler-MSDB-191Ford-WSB-M4D690-AGM-GMP.ABS.009Information provided by Styron

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-MAGNUM-375-HP-Acrylonitrile-Butadiene-Styrene-ABS-Resin.php

Physical Properties	Metric	English	Comments
Density	1.06 g/cc	0.0383 lb/in ³	ASTM D792; ISO 1183/B
Apparent Bulk Density	0.680 g/cc	0.0246 lb/in ³	ASTM D1895
Linear Mold Shrinkage, Flow	0.0057 cm/cm	0.0057 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0056 cm/cm	0.0056 in/in	ISO 294-4
Melt Flow	2.1 g/10 min @Load 3.80 kg, Temperature 230 °C	2.1 g/10 min @Load 8.38 lb, Temperature 446 °F	ASTM D1238; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	47.0 MPa	6820 psi	ISO 527-2
	49.0 MPa	7110 psi	51 mm/min; ASTM D638
Elongation at Break	3.5 %	3.5 %	ISO 527-2/50
	8.8 %	8.8 %	51 mm/min; ASTM D638
Elongation at Yield	2.9 %	2.9 %	ISO 527-2/50
	3.1 %	3.1 %	51 mm/min; ASTM D638
Tensile Modulus	2.30 GPa	334 ksi	51 mm/min; ASTM D638
	2.33 GPa	338 ksi	ISO 527-2
Flexural Strength	72.0 MPa	10400 psi	3-point, 2 mm/min; ISO 178
	76.5 MPa	11100 psi	Method I (3 point load), 1.3 mm/min; ASTM D790
Flexural Modulus	2.39 GPa	347 ksi	3-point, 2 mm/min; ISO 178
	2.41 GPa	350 ksi	Method I (3 point load), 1.3 mm/min; ASTM D790
	1.30 J/cm	2.44 ft-lb/in	

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	2.20 J/cm	4.12 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	ISO 180/A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	25.0 kJ/m ²	11.9 ft-lb/in ²	ISO 180/A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.10 J/cm ²	5.23 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	2.20 J/cm ²	10.5 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dart Drop, Total Energy	23.0 J	17.0 ft-lb	Peak Energy; ASTM D3763
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	30.0 J	22.1 ft-lb	Peak Energy; ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	77.0 µm/m-°C	42.8 µin/in-°F	ASTM E831
	@Temperature -40.0 - 100 °C	@Temperature -40.0 - 212 °F	
CTE, linear, Transverse to Flow	95.0 µm/m-°C	52.8 µin/in-°F	ASTM E831
	@Temperature -40.0 - 100 °C	@Temperature -40.0 - 212 °F	
Deflection Temperature at 0.46 MPa (66 psi)	98.0 °C	208 °F	Unannealed; ISO 75-2/B
	99.4 °C	211 °F	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	81.7 °C	179 °F	Unannealed; ASTM D648
	83.9 °C	183 °F	Unannealed; ISO 75-2/A
	103 °C	217 °F	

Vicat Softening Point Thermal Properties	Metric @Load 5.10 kg	English @Load 11.2 lb	Comments Rate A (50Å°C/h); ISO 306/B50; AS 1161.1.25
Flame Spread	30.0 mm/min	1.18 in/min	FMVSS 302

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	238 Å°C	460 Å°F	
Middle Barrel Temperature	249 Å°C	480 Å°F	
Front Barrel Temperature	254 Å°C	489 Å°F	
Nozzle Temperature	249 - 254 Å°C	480 - 489 Å°F	
Melt Temperature	243 - 271 Å°C	469 - 520 Å°F	
Drying Temperature	82.0 - 85.0 Å°C	180 - 185 Å°F	
Dry Time	>= 2.00 hour	>= 2.00 hour	

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