

## Styron Magnum® 941 ABS

Category : Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS), Molded

### Material Notes:

MAGNUM® ABS resins are thermoplastic materials which provide an excellent balance of 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. MAGNUM ABS resins offer a wide range of processability and impact resistance for low gloss injection molding applications. Combined with heat resistance and tensile and flexural strength, MAGNUM ABS resins are used in a wide variety of injection molding applications. MAGNUM 941 ABS resin is the toughest resin of the low gloss injection molding grades. With a very high impact strength of 640 J/m, it is ideal for applications requiring a high degree of impact resistance and toughness. Data provided by Dow Chemical. This 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-941-ABS.php](http://www.lookpolymers.com/polymer_Styron-Magnum-941-ABS.php)

Physical Properties	Metric	English	Comments
Density	1.04 g/cc	0.0376 lb/in <sup>3</sup>	ASTM Data
Melt Density	0.890 g/cc	0.0322 lb/in <sup>3</sup>	Melt density
Linear Mold Shrinkage	0.0055 cm/cm	0.0055 in/in	
Melt Flow	2.2 g/10 min @Load 3.80 kg, Temperature 230 °C	2.2 g/10 min @Load 8.38 lb, Temperature 446 °F	ASTM Data

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	100	100	
Tensile Strength, Yield	41.4 MPa	6000 psi	ASTM Data
Elongation at Yield	2.8 %	2.8 %	ISO Data
Tensile Modulus	2.00 GPa	290 ksi	ASTM Data
Izod Impact, Notched	6.40 J/cm	12.0 ft-lb/in	ASTM Data
Charpy Impact Unnotched	NB	NB	ISO Data
	NB	NB	ISO Data, Low Temp
Charpy Impact, Notched	1.60 J/cm <sup>2</sup>	7.61 ft-lb/in <sup>2</sup>	ISO Data, Low Temp
	6.30 J/cm <sup>2</sup>	30.0 ft-lb/in <sup>2</sup>	ISO Data
Impact Test	54.0 J	39.8 ft-lb	Instrumented Dart Total Energy

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 23.0 $\text{Å}^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 73.4 $\text{Å}^\circ\text{F}$ @Temperature 20.0 $\text{Å}^\circ\text{C}$ @Temperature 68.0 $\text{Å}^\circ\text{F}$	ISO data
Specific Heat Capacity	2.03 J/g- $\text{Å}^\circ\text{C}$	0.485 BTU/lb- $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.128 W/m-K	0.888 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	93.0 $\text{Å}^\circ\text{C}$	199 $\text{Å}^\circ\text{F}$	Unannealed; ASTM Data
Deflection Temperature at 1.8 MPa (264 psi)	79.0 $\text{Å}^\circ\text{C}$	174 $\text{Å}^\circ\text{F}$	Unannealed; ASTM Data
	97.8 $\text{Å}^\circ\text{C}$	208 $\text{Å}^\circ\text{F}$	Annealed; ASTM Data
Vicat Softening Point	107 $\text{Å}^\circ\text{C}$	225 $\text{Å}^\circ\text{F}$	
Flammability, UL94	HB @Thickness 1.47 mm	HB @Thickness 0.0579 in	
Optical Properties	Metric	English	Comments
Gloss	52.5 %	52.5 %	Gardner Gloss, 60 $\text{Å}^\circ$

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