

Styron Magnum® 780HP ABS, High Heat, High Impact

Category : Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS), Heat Resistant, 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® 780HP ABS resin is a low gloss, high heat, high impact grade designed for use in small household appliances. It offers a good balance of physical properties and excellent injection molding characteristics. 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-780HP-ABS-High-Heat-High-Impact.php

| Physical Properties | Metric | English | Comments |
|-----------------------|--|--|-----------|
| Density | 1.04 g/cc | 0.0376 lb/in ³ | ASTM Data |
| Linear Mold Shrinkage | 0.0055 cm/cm | 0.0055 in/in | |
| Melt Flow | 3.0 g/10 min @Load 3.80 kg, Temperature 230 °C | 3.0 g/10 min @Load 8.38 lb, Temperature 446 °F | ASTM Data |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|-----------------------------------|------------------------------------|--------------------------------|
| Hardness, Rockwell R | 108 | 108 | |
| Tensile Strength, Yield | 44.8 MPa | 6500 psi | ASTM Data |
| Elongation at Yield | 2.5 % | 2.5 % | ISO Data |
| Tensile Modulus | 2.07 GPa | 300 ksi | ASTM Data |
| Izod Impact, Notched | 2.40 J/cm | 4.50 ft-lb/in | ASTM Data |
| Charpy Impact Unnotched | NB | NB | ISO Data |
| | NB | NB | ISO Data, Low Temp |
| Charpy Impact, Notched | 0.700 J/cm ² | 3.33 ft-lb/in ² | ISO Data, Low Temp |
| | 2.00 J/cm ² | 9.52 ft-lb/in ² | ISO Data |
| Impact Test | 45.0 J @Temperature 23.0 °C | 33.2 ft-lb @Temperature 73.4 °F | Instrumented Dart Total Energy |

| Thermal Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
|--------------------|--------|---------|----------|

| Thermal Properties | Metric | English | Comments |
|---|---|---|--|
| CTE, linear, Parallel to Flow | $78.0 \text{ } \mu\text{m/m-}\text{ }^\circ\text{C}$ @Temperature 20.0 $\text{ }^\circ\text{C}$ | $1.39 \text{ in/in-}\text{ }^\circ\text{F}$ @Temperature 68.0 $\text{ }^\circ\text{F}$ | ISO data |
| Deflection Temperature at 0.46 MPa (66 psi) | 96.1 $\text{ }^\circ\text{C}$ | 205 $\text{ }^\circ\text{F}$ | Unannealed; ASTM Data |
| Deflection Temperature at 1.8 MPa (264 psi) | 83.0 $\text{ }^\circ\text{C}$ | 181 $\text{ }^\circ\text{F}$ | Unannealed; 103 $\text{ }^\circ\text{C}$ (217 $\text{ }^\circ\text{F}$) annealed; ASTM Data |
| Vicat Softening Point | 111 $\text{ }^\circ\text{C}$ | 232 $\text{ }^\circ\text{F}$ | |

| Optical Properties | Metric | English | Comments |
|--------------------|--------|---------|------------------------------------|
| Gloss | 52.5 % | 52.5 % | Gardner Gloss, 60 ° |

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