

Styron Magnum[®],ç 545 ABS, General Purpose

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 545 ABS resin offers a balance of both easy processing and good impact strength in a low gloss resin. With a melt flow rate of 6 g/10 min. and an Izod impact strength of 290 J/m, MAGNUM 545 is an excellent general purpose ABS resin. 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-545-ABS-General-Purpose.php

| Physical Properties | Metric | English | Comments |
|-----------------------|--|--|--------------|
| Density | 1.04 g/cc | 0.0376 lb/in ³ | ASTM Data |
| Melt Density | 0.890 g/cc | 0.0322 lb/in ³ | Melt density |
| Linear Mold Shrinkage | 0.0055 cm/cm | 0.0055 in/in | |
| Melt Flow | 6.0 g/10 min @Load 3.80 kg, Temperature 230 °C | 6.0 g/10 min @Load 8.38 lb, Temperature 446 °F | ASTM Data |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|------------------------|----------------------------|--------------------------------|
| Hardness, Rockwell R | 104 | 104 | |
| Tensile Strength, Yield | 44.8 MPa | 6500 psi | ASTM Data |
| Elongation at Yield | 6.0 % | 6.0 % | ISO Data |
| Tensile Modulus | 2.21 GPa | 321 ksi | ASTM Data |
| Izod Impact, Notched | 2.88 J/cm | 5.40 ft-lb/in | ASTM Data |
| Charpy Impact Unnotched | NB | NB | ISO Data |
| | NB | NB | ISO Data, Low Temp |
| Charpy Impact, Notched | 1.10 J/cm ² | 5.24 ft-lb/in ² | ISO Data, Low Temp |
| | 7.00 J/cm ² | 33.3 ft-lb/in ² | ISO Data |
| Impact Test | 51.0 J | 37.6 ft-lb | Instrumented Dart Total Energy |

| Mechanical Properties | Metric | English | Comments |
|---|-----------------------|--------------------------|-----------------------|
| | @Temperature 23.0 Å°C | @Temperature 73.4 Å°F | |
| Thermal Properties | Metric | English | Comments |
| CTE, linear, Parallel to Flow | 65.0 Åµm/m-Å°C | 36.1 Åµin/in-Å°F | ISO data |
| | @Temperature 20.0 Å°C | @Temperature 68.0 Å°F | |
| Specific Heat Capacity | 2.03 J/g-Å°C | 0.485 BTU/lb-Å°F | |
| Thermal Conductivity | 0.128 W/m-K | 0.888 BTU-in/hr-ftÅ²-Å°F | |
| Deflection Temperature at 0.46 MPa (66 psi) | 93.0 Å°C | 199 Å°F | Unannealed; ASTM Data |
| Deflection Temperature at 1.8 MPa (264 psi) | 79.0 Å°C | 174 Å°F | Unannealed; ASTM Data |
| | 96.1 Å°C | 205 Å°F | Annealed; ASTM Data |
| Vicat Softening Point | 104 Å°C | 219 Å°F | |
| Flammability, UL94 | HB | HB | |
| | @Thickness 1.47 mm | @Thickness 0.0579 in | |
| Optical Properties | Metric | English | Comments |
| Gloss | 52.5 % | 52.5 % | Gardner Gloss, 60Å° |

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