

**Styron Magnum® 8391 MED Acrylonitrile Butadiene Styrene (ABS) Resin**

Category : Polymer , Thermoplastic , ABS Polymer

Material Notes:

Overview: MAGNUM® MED ABS combines an excellent glossy appearance with high flow and medium impact performance. The mass (continuous process) ABS technology of Styron ensures an ABS resin that combines excellent processability with a stable light base color that is ideal for self-coloring. MAGNUM 8391 MED natural resin has undergone biocompatibility testing based on ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications. Applications: Medical Applications Information provided by Styron

Order this product through the following link:  
[http://www.lookpolymers.com/polymer\\_Styron-Magnum-8391-MED-Acrylonitrile-Butadiene-Styrene-ABS-Resin.php](http://www.lookpolymers.com/polymer_Styron-Magnum-8391-MED-Acrylonitrile-Butadiene-Styrene-ABS-Resin.php)

| Physical Properties         | Metric                            | English                           | Comments              |
|-----------------------------|-----------------------------------|-----------------------------------|-----------------------|
| Density                     | 1.05 g/cc                         | 0.0379 lb/in³                     | ASTM D792; ISO 1183/B |
| Apparent Bulk Density       | 0.650 g/cc                        | 0.0235 lb/in³                     | ISO 60                |
| Linear Mold Shrinkage, Flow | 0.0040 - 0.0070 cm/cm             | 0.0040 - 0.0070 in/in             | ASTM D955; ISO 294-4  |
| Melt Flow                   | 8.0 g/10 min                      | 8.0 g/10 min                      | ASTM D1238            |
|                             | @Load 3.80 kg, Temperature 230 °C | @Load 8.38 lb, Temperature 446 °F |                       |
|                             | 28 g/10 min                       | 28 g/10 min                       | ASTM D1238; ISO 1133  |
|                             | @Load 10.0 kg, Temperature 220 °C | @Load 22.0 lb, Temperature 428 °F |                       |

| Mechanical Properties     | Metric             | English             | Comments                        |
|---------------------------|--------------------|---------------------|---------------------------------|
| Hardness, Rockwell R      | 108                | 108                 | ASTM D785                       |
| Tensile Strength at Break | 35.0 MPa           | 5080 psi            | 50 mm/min; ASTM D638            |
| Tensile Strength, Yield   | 48.0 MPa           | 6960 psi            | 50 mm/min; ASTM D638            |
|                           | 45.0 MPa           | 6530 psi            | Injection Molded; ISO 527-2/50  |
|                           | @Thickness 3.20 mm | @Thickness 0.126 in |                                 |
|                           | 47.0 MPa           | 6820 psi            | Injection Molded; ISO 527-2/100 |
|                           | @Thickness 3.20 mm | @Thickness 0.126 in |                                 |
| Elongation at Break       | 8.7 %              | 8.7 %               | 50 mm/min; ASTM D638            |
| Elongation at Yield       | 2.7 %              | 2.7 %               | 50 mm/min; ASTM D638            |
|                           | 2.5 %              | 2.5 %               | Injection Molded; ISO 527-2/50  |
|                           | @Thickness 3.20 mm | @Thickness 0.126 in |                                 |

| Mechanical Properties      | Metric                 | English                | Comments                                     |
|----------------------------|------------------------|------------------------|----------------------------------------------|
|                            | @Thickness 3.20 mm     | @Thickness 0.126 in    | Injection Molded; ISO 527-2/100              |
| Tensile Modulus            | 2.34 GPa               | 339 ksi                | ISO 527-2                                    |
| Flexural Strength          | 75.0 MPa               | 10900 psi              | 1.3 mm/min; ASTM D790                        |
|                            | 70.0 MPa               | 10200 psi              | 3-point, 2 mm/min, Injection Molded; ISO 178 |
|                            | @Thickness 3.20 mm     | @Thickness 0.126 in    |                                              |
| Flexural Modulus           | 2.48 GPa               | 360 ksi                | 1.3 mm/min; ASTM D790                        |
|                            | 2.40 GPa               | 348 ksi                | 3-point, 2 mm/min, Injection Molded; ISO 178 |
|                            | @Thickness 3.20 mm     | @Thickness 0.126 in    |                                              |
| Izod Impact, Notched       | 2.30 J/cm              | 4.31 ft-lb/in          | Injection Molded; ASTM D256                  |
|                            | @Temperature 23.0 Â°C  | @Temperature 73.4 Â°F  |                                              |
| Izod Impact, Notched (ISO) | 9.00 kJ/mÂ²            | 4.28 ft-lb/inÂ²        | Injection Molded; ISO 180/A                  |
|                            | @Temperature -30.0 Â°C | @Temperature -22.0 Â°F |                                              |
|                            | 19.0 kJ/mÂ²            | 9.04 ft-lb/inÂ²        | Injection Molded; ISO 180/A                  |
|                            | @Temperature 23.0 Â°C  | @Temperature 73.4 Â°F  |                                              |
| Charpy Impact, Notched     | 0.900 J/cmÂ²           | 4.28 ft-lb/inÂ²        | Injection Molded; ISO 179/1eA                |
|                            | @Temperature -30.0 Â°C | @Temperature -22.0 Â°F |                                              |
|                            | 1.90 J/cmÂ²            | 9.04 ft-lb/inÂ²        | Injection Molded; ISO 179/1eA                |
|                            | @Temperature 23.0 Â°C  | @Temperature 73.4 Â°F  |                                              |

| Thermal Properties                          | Metric        | English       | Comments                      |
|---------------------------------------------|---------------|---------------|-------------------------------|
| Deflection Temperature at 0.46 MPa (66 psi) | 87.0 Â°C      | 189 Â°F       | Unannealed; ASTM D648         |
| Deflection Temperature at 1.8 MPa (264 psi) | 74.0 Â°C      | 165 Â°F       | Unannealed; ASTM D648         |
|                                             | 95.0 Â°C      | 203 Â°F       | Unannealed; ISO 75-2/A        |
| Vicat Softening Point                       | 95.0 Â°C      | 203 Â°F       | ISO 306/B50                   |
|                                             | 99.0 Â°C      | 210 Â°F       | Rate B (120Â°C/h); ASTM D1525 |
|                                             | @Load 1.02 kg | @Load 2.25 lb |                               |

| Thermal Properties | HB<br>Metric       | HB<br>English        | Comments |
|--------------------|--------------------|----------------------|----------|
|                    | @Thickness 1.50 mm | @Thickness 0.0591 in |          |
|                    | HB                 | HB                   |          |
|                    | @Thickness 3.00 mm | @Thickness 0.118 in  |          |
| Flame Spread       | 60.0 mm/min        | 2.36 in/min          | ISO 3795 |

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