

Technical Data

Product Description

MAGNUM™ 8391 ABS combines an excellent glossy appearance with high flow and medium impact performance. The mass (continuous process) ABS technology ensures an ABS resin that combines excellent processability with a stable light base color that is ideal for self-coloring.

Applications:

- Household Appliance
- Consumer Goods
- Toys

Complies with:

- U.S. FDA FCN 1525

Consult the regulation for complete details.

General

| | |
|-----------------------------|--|
| Material Status | • Commercial: Active |
| Literature ¹ | <ul style="list-style-type: none"> • Brochure - MAGNUM™ ABS - The Benchmark ABS for Extrusion (English) • Brochure - MAGNUM™ ABS Resins - Proven to enhance productivity and efficiency (English) • Press Release - Trinseo broadens Plastic Resin offering in North America (English) • Technical Datasheet |
| UL Yellow Card ² | <ul style="list-style-type: none"> • E162447-238270 • E73656-249578 • E54680-102742840 |
| Search for UL Yellow Card | <ul style="list-style-type: none"> • Trinseo • MAGNUM™ |
| Availability | <ul style="list-style-type: none"> • Asia Pacific • Europe • North America |
| Features | <ul style="list-style-type: none"> • Good Processability • High Flow • Medium Impact Resistance |
| Uses | • Toys |
| Forms | • Pellets |
| Processing Method | • Injection Molding |

| Physical | Nominal Value Unit | Test Method |
|---------------------------------------|-----------------------------|-------------------------|
| Density / Specific Gravity | | |
| -- | 1.05 g/cm ³ | ASTM D792 ISO 1183/B |
| -- | 1050 kg/m ³ | ISO 1183 ⁴ |
| Apparent (Bulk) Density | 0.65 g/cm ³ | ISO 60 |
| Melt Mass-Flow Rate (MFR) | | |
| 220°C/10.0 kg | 28 g/10 min | ASTM D1238 |
| 220°C/5.0 kg | 8.5 g/10 min | ASTM D1238 |
| 230°C/3.8 kg | 8.0 g/10 min | ASTM D1238 |
| 220°C/5.0 kg | 8.4 g/10 min | ISO 1133 |
| Melt volume-flow rate (220°C/10.0 kg) | 27.0 cm ³ /10min | ISO 1133 ⁴ |
| Molding Shrinkage - Flow | 0.40 to 0.70 % | ASTM D955 ISO 294-4 |

| Mechanical | Nominal Value Unit | Test Method |
|---------------------------|--------------------|------------------------|
| Tensile Modulus | | |
| -- | 2500 MPa | ASTM D638 |
| 3.20 mm, Injection Molded | 2340 MPa | ISO 527-2 |
| -- | 2400 MPa | ISO 527-2 ⁴ |



| Mechanical | Nominal Value Unit | Test Method |
|---|------------------------|--------------------------|
| Tensile Strength | | |
| Yield ⁵ | 48.0 MPa | ASTM D638 |
| Yield, 3.20 mm, Injection Molded | 45.0 MPa | ISO 527-2/50 |
| Yield, 3.20 mm, Injection Molded | 47.0 MPa | ISO 527-2/100 |
| Yield | 48.0 MPa | ISO 527-2 ⁴ |
| Break ⁵ | 35.0 MPa | ASTM D638 |
| Tensile Elongation | | |
| Yield ⁵ | 2.7 % | ASTM D638 |
| Yield, 3.20 mm, Injection Molded | 2.5 % | ISO 527-2/50 |
| Yield, 3.20 mm, Injection Molded | 2.6 % | ISO 527-2/100 |
| Break ⁵ | 8.7 % | ASTM D638 |
| Nominal strain at break | 20 % | ISO 527-2 ⁴ |
| Flexural Modulus | | |
| -- ⁶ | 2480 MPa | ASTM D790 |
| 3.20 mm, Injection Molded ^{7, 8} | 2400 MPa | ISO 178 |
| Flexural Strength | | |
| -- ⁶ | 75.0 MPa | ASTM D790 |
| 3.20 mm, Injection Molded ^{7, 8} | 70.0 MPa | ISO 178 |
| Impact | | |
| Charpy Notched Impact Strength | | |
| -30°C, Injection Molded | 9.0 kJ/m ² | ISO 179/1eA |
| 23°C, Injection Molded | 19 kJ/m ² | ISO 179/1eA |
| -30°C | 9.00 kJ/m ² | ISO 179/1eA ⁴ |
| 23°C | 18.0 kJ/m ² | ISO 179/1eA ⁴ |
| Charpy impact strength | | |
| -30°C | No Break | ISO 179/1eU ⁴ |
| 23°C | No Break | |
| Notched Izod Impact | | |
| 23°C | 230 J/m | ASTM D256 |
| -30°C, Injection Molded | 9.0 kJ/m ² | ISO 180/A |
| 23°C, Injection Molded | 19 kJ/m ² | ISO 180/A |
| Hardness | | |
| Rockwell Hardness (R-Scale) | | |
| | 108 | ASTM D785 |
| Thermal | | |
| Deflection Temperature Under Load | | |
| 0.45 MPa, Unannealed | 87.0 °C | ASTM D648 |
| 1.8 MPa, Unannealed | 74.0 °C | ASTM D648 |
| 1.8 MPa, Annealed | 95.0 °C | ISO 75-2/A |
| 1.8 MPa | 95.0 °C | ISO 75-2 ⁴ |
| Vicat Softening Temperature | | |
| -- | 99.0 °C | ASTM D1525 ⁹ |
| -- | 95.0 °C | ISO 306/B50 |
| 50°C/h, B (50N) | 92.0 °C | ISO 306 ⁴ |
| Flammability | | |
| Burning Rate¹⁰ (2.00 mm) | | |
| | 60 mm/min | ISO 3795 |
| Flame Rating¹⁰ | | |
| 1.5 mm | HB | UL 94 |
| 3.0 mm | HB | |
| Burning Behav. at 1.6mm nom. thickn. | | |
| 1.50 mm, UL | HB | ISO 1210 ⁴ |



| Optical | Nominal Value Unit | Test Method |
|---------------------|--------------------|-------------|
| Gardner Gloss (60°) | 92 | ASTM D523 |

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ Tested in accordance with ISO 10350, 23°C/50%r.h. unless otherwise noted.

⁵ 50 mm/min

⁶ 1.3 mm/min

⁷ 2.0 mm/min

⁸ 3-points

⁹ Rate B (120°C/h), Loading 1 (10 N)

¹⁰ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

