

## AMT AM-Lite® Die Casting Magnesium Alloy

Category : Metal , Nonferrous Metal , Magnesium Alloy

### Material Notes:

AM-lite is a high surface finish die casting alloy suitable for applications that currently utilize zinc, aluminum or magnesium (alloy AZ91D) die castings, or plastic injection moldings. AM-lite has better die casting properties than existing magnesium alloys, plus an improved as-cast surface finish that is suitable for decorative surface finishing operations. A special electroplating process has been developed for AM-Lite to take advantage of these properties.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_AMT-AM-Lite-Die-Casting-Magnesium-Alloy.php](http://www.lookpolymers.com/polymer_AMT-AM-Lite-Die-Casting-Magnesium-Alloy.php)

| Physical Properties | Metric    | English                   | Comments |
|---------------------|-----------|---------------------------|----------|
| Density             | 2.02 g/cc | 0.0730 lb/in <sup>3</sup> |          |

| Mechanical Properties      | Metric  | English   | Comments            |
|----------------------------|---|---|---------------------|
| Hardness, Brinell          | 76 - 80   | 76 - 80   |                     |
| Hardness, Vickers          | 85 - 90   | 85 - 90   | 300 g               |
| Tensile Strength, Ultimate | 230 - 250 MPa                                       | 33400 - 36300 psi                                 |                     |
| Tensile Strength, Yield    | 160 - 170 MPa<br>@Strain 0.200 %                    | 23200 - 24700 psi<br>@Strain 0.200 %              |                     |
| Elongation at Break        | 3.0 - 4.0 %   | 3.0 - 4.0 %                                       |                     |
| Creep Strength             | 35.0 MPa<br>@Temperature 150 °C,<br>Time 720000 sec | 5080 psi<br>@Temperature 302 °F,<br>Time 200 hour | 0.2% strain         |
|                            | 60.0 MPa<br>@Temperature 150 °C,<br>Time 720000 sec | 8700 psi<br>@Temperature 302 °F,<br>Time 200 hour | 0.5% strain         |
| Modulus of Elasticity      | 45.3 GPa  | 6570 ksi  |                     |
| Compressive Yield Strength | 150 MPa   | 21800 psi   | 0.2% proof          |
| Compressive Strength       | 446 MPa   | 64700 psi   |                     |
| Poissons Ratio             | 0.35  | 0.35  |                     |
| Fatigue Strength           | 85.0 MPa<br>@# of Cycles 5.00e+7                    | 12300 psi<br>@# of Cycles 5.00e+7                 | R.R.Moore           |
|                            | 181 MPa   | 26300 psi   | 3 point bend; R=0.1 |

| Mechanical Properties | @# of Cycles 1.00e+6<br>Metric | @# of Cycles 1.00e+6<br>English | Comments            |
|-----------------------|--------------------------------|---------------------------------|---------------------|
| Shear Modulus         | 16.8 GPa                       | 2440 ksi                        |                     |
| Charpy Impact         | 3.30 J                         | 2.43 ft-lb                      | 10x10 mm, Unnotched |

| Thermal Properties     | Metric   | English  | Comments |
|------------------------|--|--|----------|
| Heat of Fusion         | 340 J/g  | 146 BTU/lb   |          |
| CTE, linear            | 24.9 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ | 13.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ |          |
| Specific Heat Capacity | 0.950 J/g- $^{\circ}\text{C}$                    | 0.227 BTU/lb- $^{\circ}\text{F}$                   |          |
| Thermal Conductivity   | 83.0 W/m-K                                       | 576 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$ |          |
| Melting Point          | 330 - 585 $^{\circ}\text{C}$                     | 626 - 1090 $^{\circ}\text{F}$                      |          |
| Solidus                | 330 $^{\circ}\text{C}$                           | 626 $^{\circ}\text{F}$                             |          |
| Liquidus               | 585 $^{\circ}\text{C}$                           | 1090 $^{\circ}\text{F}$                            |          |

| Electrical Properties  | Metric                        | English                       | Comments |
|------------------------|-------------------------------|-------------------------------|----------|
| Electrical Resistivity | 0.000105 - 0.000110<br>ohm-cm | 0.000105 - 0.000110<br>ohm-cm |          |

## Contact Songhan Plastic Technology Co.,Ltd.

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