Mag-Form®
Thread Forming
Fasteners for Magnesium

**Sizes:** MG1.6 to MG12

**Thread Design:** Wide-spaced thread with broad flank angle

**Head Design:** Can be used with any external or internal head designs

**Drive System:** Can be used with all systems, including TORX PLUS® Drive

**FEATURES**
- Lobular configuration
- Wide-spaced thread design
- Broad flank angle compresses, rather than roll-forms, threads into the mating material

**BENEFITS**
- Minimizes debris generation
- Forms strong threads in materials with low ductility
- Can easily be removed and re-inserted for service in the field

**TYPICAL APPLICATIONS**
- Automotive powertrain & IP
- Airbag assemblies
- Mirrors
- Pedal brackets
- Steering components
- Lawn and garden
- Small engines
- Power tools
- Electronics
- Cellphones
- Computers

Mag-Form® fasteners are specifically designed to eliminate tapping operations while forming strong threads in conventional magnesium die-castings and similar materials, with minimal debris generation and good serviceability.

**MINIMIZES DEBRIS GENERATION IN CRITICAL APPLICATIONS**

When driven into low-ductile materials, standard thread-forming fasteners with a 60° flank angle, create excess debris. They can easily exceed the ductility limits of the material, causing damage to the formed threads.

Mag-Form® thread-forming fasteners feature a broader flank angle. When driven into low-ductile materials, such as magnesium die-castings, a compressive action forms strong threads in the material with minimal debris generation.

Mag-Form® fasteners also allow multiple removals and reinsertions, unlike standard thread-forming fasteners.

Because they produce minimal debris during installation, Mag-Form® fasteners are the optimal solution for critical applications such as steering components and air bag modules.

**Typical Thread**

**Rolling Screw**

**Standard 60° Flank Angle Thread-Forming Fasteners**

May exceed ductility limit of the material, causing damage to formed threads

**Mag-Form® Thread-Forming Fasteners**

Compressive action forms strong threads in low-ductile materials
### Design Guidelines

- Minimum engagement length of full threads is generally 2 to 2 1/2 times the basic screw diameter.
- Recommended engagement length does not include lead threads (2 pitch ref.).
- Typical hole engagement: 55%-75% based on application specifics.

#### Screw Size

<table>
<thead>
<tr>
<th>Screw Size</th>
<th>Cored Hole</th>
<th>Drilled Hole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hole Diameter</td>
<td>Boss Diameter</td>
</tr>
<tr>
<td>mg3-1.0</td>
<td>2.85</td>
<td>2.77</td>
</tr>
<tr>
<td>mg3.5-1.2</td>
<td>3.28</td>
<td>3.20</td>
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<tr>
<td>mg4-1.4</td>
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<td>3.62</td>
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<tr>
<td>mg4.5-1.5</td>
<td>4.13</td>
<td>4.05</td>
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<tr>
<td>mg5-1.6</td>
<td>4.58</td>
<td>4.50</td>
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<td>mg6-2.0</td>
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<tr>
<td>mg10-3.0</td>
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<tr>
<td>mg12-3.5</td>
<td>11.06</td>
<td>10.98</td>
</tr>
</tbody>
</table>

1. Additional sizes available upon request.
2. Minimum distance to edge without measurable distortion.

Recommended starting hole dimensions for diameters below MG3, please contact applications engineering.

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