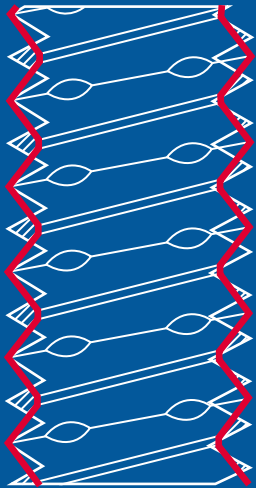
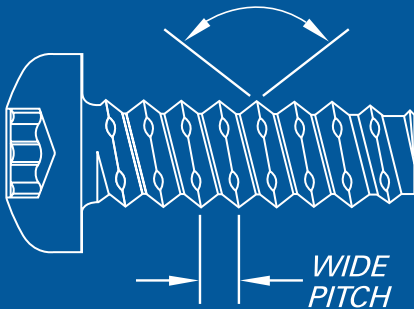


# THREAD FORMING FASTENERS FOR MAGNESIUM



LARGE THREAD  
ANGLE



# MAG-FORM<sup>®</sup>

From Semblex

## MAG-FORM<sup>®</sup>

Standard thread-forming fasteners can easily exceed the ductility limits of low-ductile materials, causing thread damage and excess debris. Mag-Form<sup>®</sup> 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.

## STANDARD DESIGN GUIDELINES

- **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<sup>®</sup> Drive
- **Finish:** Zinc and chromate to minimize galvanic corrosion

## 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 reinserted for service in the field

## TYPICAL APPLICATIONS

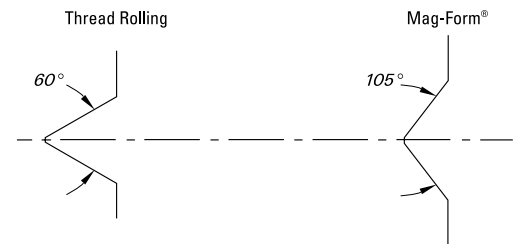
- Automotive engines and transmissions; airbag assemblies; mirrors; pedal brackets; steering components
- Small engines
- Power tools
- Lawn and garden equipment
- Electronics
- Cellphones
- Computers

## 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<sup>®</sup> 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<sup>®</sup> fasteners also allow multiple removals and reinsertions, unlike standard thread-forming fasteners.



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

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

**Mag-Form<sup>®</sup> Thread-Forming Fasteners**

Compressive action forms strong threads in low-ductile materials

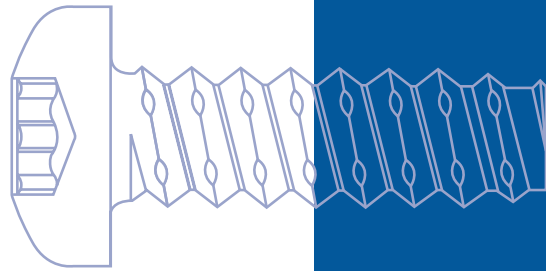


Because they produce minimal debris during installation, Mag-Form<sup>®</sup> fasteners are the optimal solution for critical applications such as steering components and air bag modules.



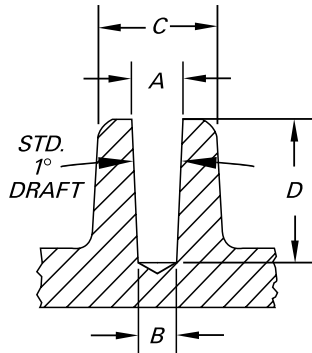
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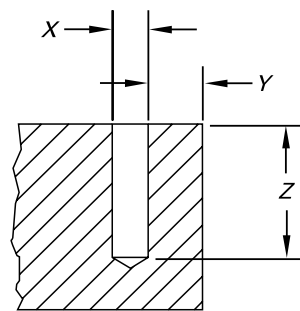


# MAG-FORM®

**Mag-Form® Cored Hole Casting**



**Mag-Form® Drilled Hole Casting**



- Minimum engagement length of full threads is generally 2.5 times the basic screw diameter.
- Recommended engagement length does not include lead threads (2 pitch ref.)
- Typical hole engagement, 65-70%.



SEMBLEX CORPORATION MAG-FORM® HOLE SIZE DATA									
Screw Size (1)	Cored Hole						Drilled Hole		
	Hole Diameter				Boss Diameter	Core Hole Depth	Hole Diameter	Distance to Edge (2)	Through Hole Depth
	A		B		C	D	X	Y	Z
	Max.	Min.	Max.	Min.	Min.	Min.	Nominal	Min.	Min.
mm	in	mm	in	mm	in	mm	in	mm	in
<b>MG3-1.0</b>	<b>2.85</b>	<b>2.77</b>	<b>2.72</b>	<b>2.64</b>	<b>6.75</b>	<b>10.50</b>	<b>2.75</b>	<b>2.00</b>	<b>7.50</b>
	0.112	0.109	0.107	0.104	0.266	0.413	0.108	0.079	0.295
<b>MG3.5-1.2</b>	<b>3.28</b>	<b>3.20</b>	<b>3.13</b>	<b>3.05</b>	<b>7.83</b>	<b>12.35</b>	<b>3.17</b>	<b>2.33</b>	<b>8.75</b>
	0.129	0.126	0.123	0.120	0.308	0.486	0.125	0.092	0.344
<b>MG4-1.4</b>	<b>3.70</b>	<b>3.62</b>	<b>3.52</b>	<b>3.44</b>	<b>8.90</b>	<b>14.20</b>	<b>3.57</b>	<b>2.67</b>	<b>10.00</b>
	0.146	0.143	0.139	0.135	0.350	0.559	0.141	0.105	0.394
<b>MG4.5-1.5</b>	<b>4.13</b>	<b>4.05</b>	<b>3.94</b>	<b>3.86</b>	<b>10.00</b>	<b>15.75</b>	<b>4.00</b>	<b>3.00</b>	<b>11.25</b>
	0.163	0.159	0.155	0.152	0.394	0.620	0.157	0.118	0.443
<b>MG5-1.6</b>	<b>4.58</b>	<b>4.50</b>	<b>4.36</b>	<b>4.28</b>	<b>11.10</b>	<b>17.30</b>	<b>4.43</b>	<b>3.33</b>	<b>12.50</b>
	0.180	0.177	0.172	0.169	0.437	0.681	0.174	0.131	0.492
<b>MG6-2.0</b>	<b>5.46</b>	<b>5.38</b>	<b>5.20</b>	<b>5.12</b>	<b>13.29</b>	<b>21.00</b>	<b>5.29</b>	<b>4.00</b>	<b>15.00</b>
	0.215	0.212	0.205	0.202	0.523	0.827	0.208	0.157	0.591
<b>MG7-2.0</b>	<b>6.49</b>	<b>6.41</b>	<b>6.18</b>	<b>6.10</b>	<b>15.63</b>	<b>23.50</b>	<b>6.29</b>	<b>4.67</b>	<b>17.50</b>
	0.256	0.252	0.243	0.240	0.615	0.925	0.248	0.184	0.689
<b>MG8-2.5</b>	<b>7.33</b>	<b>7.25</b>	<b>6.98</b>	<b>6.90</b>	<b>17.78</b>	<b>27.50</b>	<b>7.12</b>	<b>5.33</b>	<b>20.00</b>
	0.289	0.285	0.275	0.272	0.700	1.083	0.280	0.210	0.787
<b>MG10-3.0</b>	<b>9.20</b>	<b>9.12</b>	<b>8.76</b>	<b>8.68</b>	<b>22.27</b>	<b>34.00</b>	<b>8.94</b>	<b>6.67</b>	<b>25.00</b>
	0.362	0.359	0.345	0.342	0.877	1.339	0.352	0.263	0.984
<b>MG12-3.5</b>	<b>11.06</b>	<b>10.98</b>	<b>10.54</b>	<b>10.46</b>	<b>26.76</b>	<b>40.50</b>	<b>10.76</b>	<b>8.00</b>	<b>30.00</b>
	0.435	0.432	0.415	0.412	1.054	1.594	0.424	0.315	1.181

**Footnotes:**

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