

# Mag-Form<sup>®</sup>

## Thread Forming Fasteners for Magnesium



**Pentagonal Shape**

**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

### 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	Lawn and garden Small engines
Airbag assemblies	Power tools
Mirrors	Electronics
Pedal brackets	Cellphones
Steering components	Computers

**Finish:** A wide variety of coating and plating options can be applied to Mag-Form<sup>®</sup> fasteners to meet specific customer requirements for corrosion resistance and joining performance

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.

### 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.

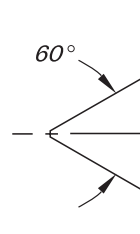


**Automotive Sub Assembly**



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.

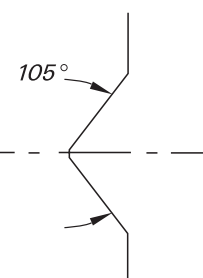
### Typical Thread Rolling Screw



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

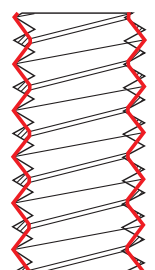
May exceed ductility limit of the material, causing damage to formed threads

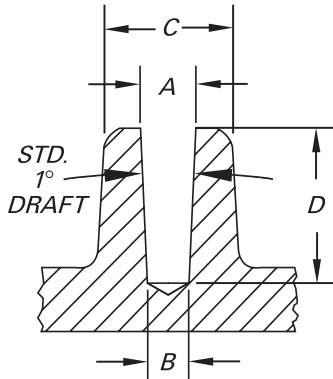
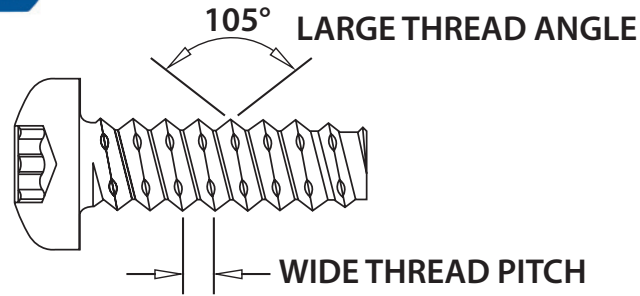
### Mag-Form<sup>®</sup>



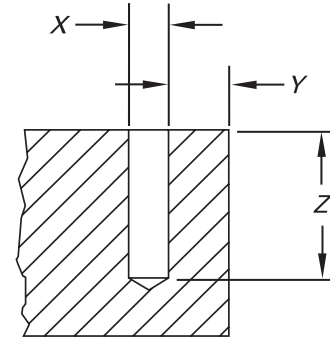
### Mag-Form<sup>®</sup> Thread-Forming Fasteners

Compressive action forms strong threads in low-ductile materials





**Mag-Form® Cored Hole Casting**



**Mag-Form® Drilled Hole Casting**

- 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 <sup>(1)</sup>	Cored Hole						Drilled Hole		
	Hole Diameter				Boss Diameter	Core Hole Depth	Hole Diameter	Distance to Edge <sup>(2)</sup>	Through Hole Depth
	A		B		C	D	X	Y	Z
	Max.	Min.	Max.	Min.	Min.	Min.	Nominal	Min.	Min.
	mm	mm	mm	mm	mm	mm	mm	mm	mm
	in	in	in	in	in	in	in	in	in
MG3-1.0	2.85	2.77	2.72	2.64	6.75	10.50	2.75	2.00	7.50
	0.112	0.109	0.107	0.104	0.266	0.413	0.108	0.079	0.295
MG3.5-1.2	3.28	3.20	3.13	3.05	7.83	12.35	3.17	2.33	8.75
	0.129	0.126	0.123	0.120	0.308	0.486	0.125	0.092	0.344
MG4-1.4	3.70	3.62	3.52	3.44	8.90	14.20	3.57	2.67	10.00
	0.146	0.142	0.139	0.136	0.351	0.559	0.141	0.105	0.394
MG4.5-1.5	4.13	4.05	3.94	3.86	10.00	15.75	4.00	3.00	11.25
	0.163	0.160	0.155	0.152	0.394	0.620	0.157	0.118	0.443
MG5-1.6	4.58	4.50	4.36	4.28	11.10	17.30	4.43	3.33	12.50
	0.180	0.177	0.172	0.169	0.437	0.681	0.175	0.131	0.492
MG6-2.0	5.46	5.38	5.20	5.12	13.29	21.00	5.29	4.00	15.00
	0.215	0.212	0.205	0.202	0.523	0.827	0.208	0.157	0.591
MG7-2.0	6.49	6.41	6.18	6.10	15.63	23.50	6.29	4.67	17.50
	0.255	0.252	0.243	0.240	0.615	0.925	0.248	0.184	0.689
MG8-2.5	7.33	7.25	6.98	6.90	17.78	27.50	7.12	5.33	20.00
	0.289	0.285	0.275	0.272	0.700	1.083	0.280	0.210	0.787
MG10-3.0	9.20	9.12	8.76	8.68	22.27	34.00	8.94	6.67	25.00
	0.362	0.359	0.345	0.342	0.877	1.339	0.352	0.262	0.984
MG12-3.5	11.06	10.98	10.54	10.46	26.76	40.50	10.76	8.00	30.00
	0.436	0.432	0.415	0.412	1.054	1.594	0.424	0.315	1.181

<sup>1</sup> Additional sizes available upon request.

<sup>2</sup> Minimum distance to edge without measurable distortion.

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

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