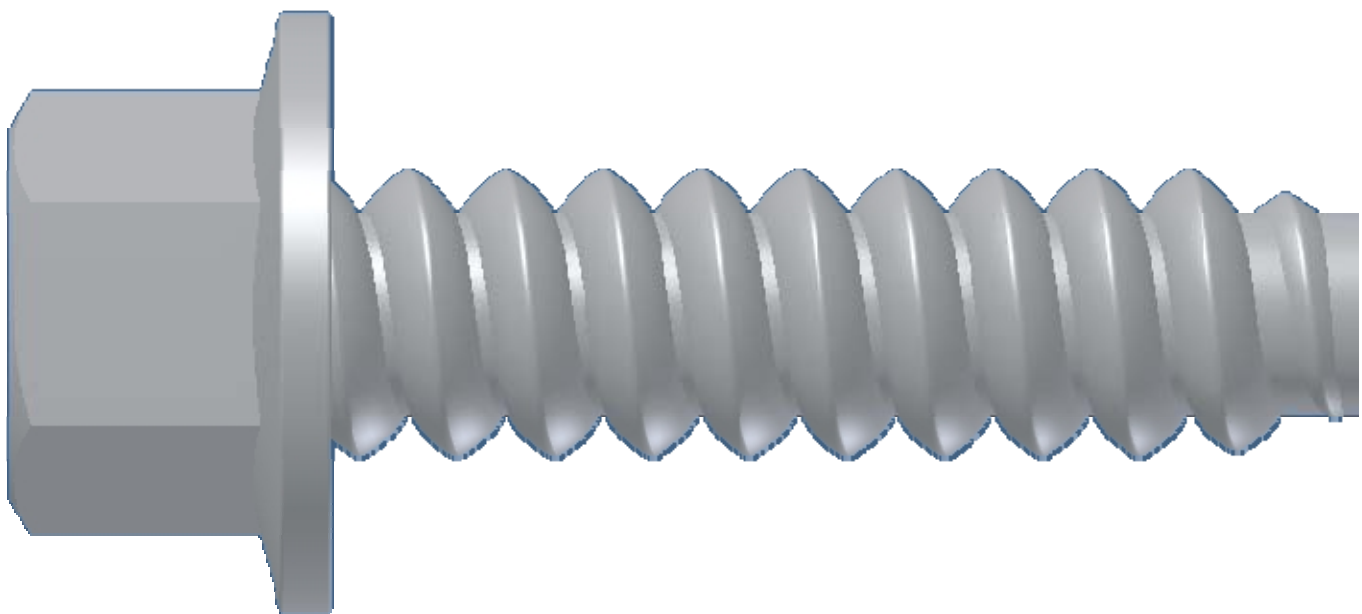
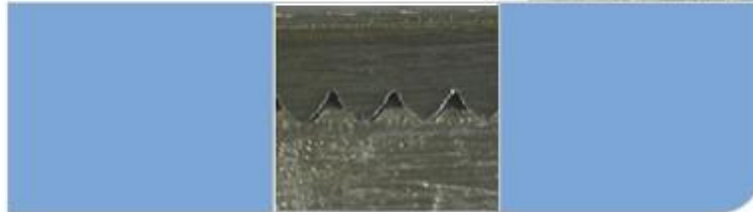
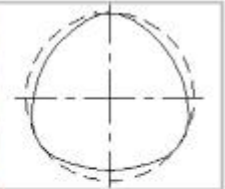
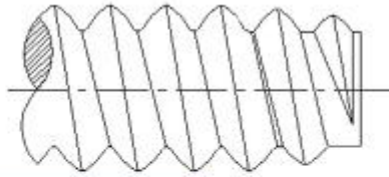
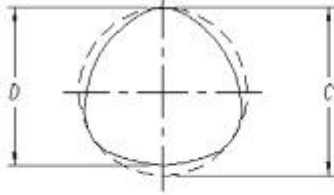


# MAGTITE<sup>®</sup> 2000<sup>™</sup> Screws

For Fastening into Magnesium Alloys



## **“The Ultimate Solution for Assembling Magnesium Components”**

- Generates minimal debris through unique thread forming method
- Requires modest length of engagement
- Allows for multiple insertions
- Available worldwide from REMINC/CONTI Licensees

**Leaders in Lowering the Cost of Assembly**

# MAGTITE<sup>®</sup> 2000<sup>™</sup> Screws



## REMINC/CONTI

**Originators of the TAPTITE<sup>®</sup> TRILOBULAR<sup>™</sup> Family of Fasteners Providing Technical Support, Marketing Support and Innovative Fastener Design**

For years, automotive component manufacturers have used TAPTITE<sup>®</sup> products to assemble magnesium components. The increasingly greater expectations of manufacturers have led REMINC/CONTI to develop MAGTITE<sup>®</sup> 2000<sup>™</sup> screws. The unique MAGTITE<sup>®</sup> 2000<sup>™</sup> design uses compressive thread forming to avoid damaging the magnesium by not exceeding the ductility limits of the material.

MAGTITE<sup>®</sup> 2000<sup>™</sup> screws form clean internal threads, creating less debris than other thread forming screws and are capable of multiple removal and reinsertion cycles.

### FEATURES

- TRILOBULAR<sup>™</sup> shape
- Unique Radius Profile<sup>™</sup> Thread
- Optimal cross sectional area

### BENEFIT

- Provides low thread forming torque and high failure torque.
- Forms clean uniform internal thread by compressing nut material providing an infinite number of removal and re-installation cycles.
- Encourages failure due to over torquing to occur through screw fracture (desired mode of failure) at a length of engagement of only 2½ times the nominal screw diameter in most applications. Other designs require as much as 3 to 3½ times nominal screw diameter length of engagement for screw fracture to be the mode of failure.

### MAGTITE<sup>®</sup> 2000<sup>™</sup> SCREWS MINIMIZE DEBRIS GENERATION

When thread forming in magnesium, several types of applications cannot tolerate the generation of debris. This is critical in internal assemblies in Powertrain applications, electrical applications, etc. The following compares a MAGTITE<sup>®</sup> 2000<sup>™</sup> and a thread forming screw, which has formed an internal thread in magnesium. Each screw was driven in and out of the magnesium for three cycles. The cumulative amount of debris generated by each screw is shown in these pictures.

**MAGTITE<sup>®</sup> 2000<sup>™</sup> SCREW**



**COMPETITOR'S PRODUCT**

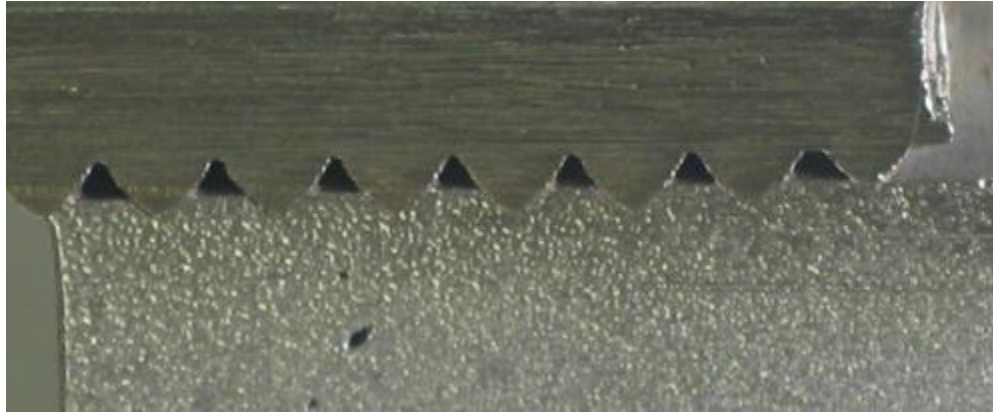




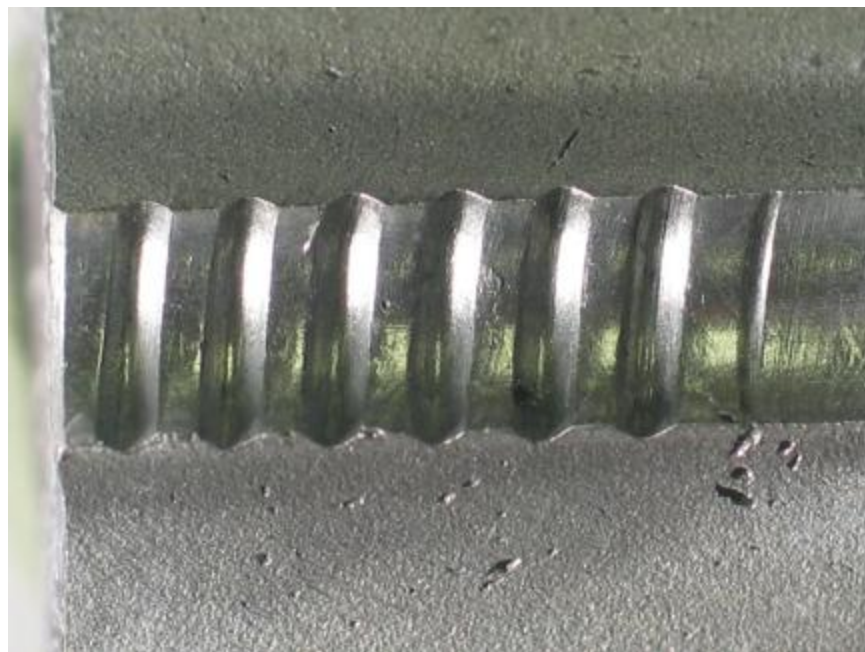
# MAGTITE<sup>®</sup> 2000<sup>™</sup> Screws



◀ Fastener Head



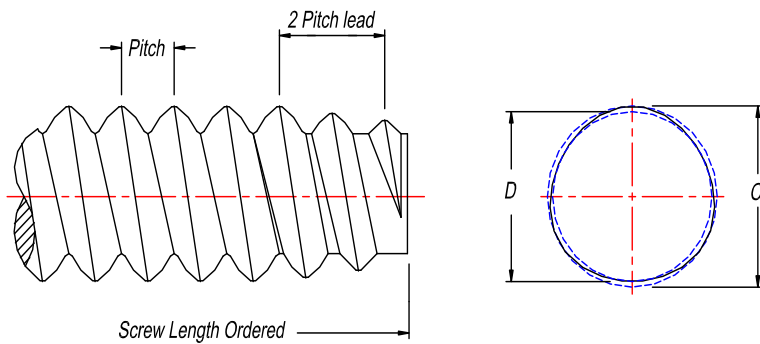
**DURING THE THREAD FORMING PROCESS, RATHER THAN THE MATERIAL BEING DISPLACED AS IT DOES IN STEEL AND ALUMINUM, THE MATERIAL IS COMPRESSED IN MAGNESIUM AS SHOWN ABOVE**



**THREAD FORMED BY M6 MAGTITE<sup>®</sup> 2000<sup>™</sup> FASTENER IN 2.5 DIAMETERS OF ENGAGEMENT IN AZ91 MAGNESIUM, SCREW WAS NOT SEATED**

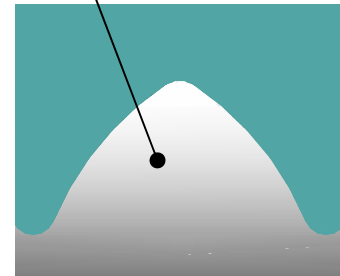


# MAGTITE<sup>®</sup> 2000<sup>™</sup> Screws



## RADIUS PROFILE<sup>™</sup> THREAD

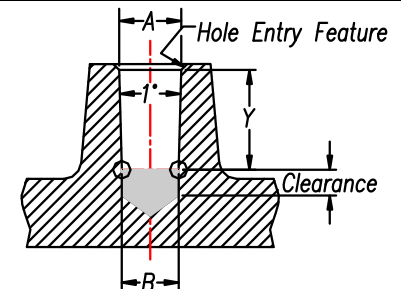
*"The unique proportions of the MAGTITE<sup>®</sup> 2000<sup>™</sup> Radius Profile<sup>™</sup> thread combined with the subtle TRILOBULAR<sup>™</sup> shape is the secret to efficient forming of an internal thread in magnesium."*



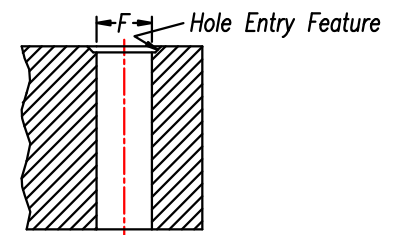
SCREW SIZE	SCREW BODY DIMENSIONS	
	C Nominal	D
MT1.40 x 0.45	1.43	1.41
MT2.0 x 0.65	2.03	2.00
MT2.5 x 0.85	2.54	2.50
MT3.0 x 1.00	3.04	2.99
MT3.5 x 1.15	3.54	3.48
MT4.0 x 1.35	4.04	3.97
MT4.5 x 1.50	4.55	4.47
MT5.0 x 1.65	5.05	4.97
MT6.0 x 2.00	6.05	5.95
MT8.0 x 2.40	8.07	7.95
MT10.0 x 3.00	10.08	9.93
MT12.0 x 3.60	12.09	11.91

Length Tolerance - Metric per ANSI B18.6.7M	
Nominal Screw Length	Tolerance on Length (mm)
to 3mm inclusive	±0.2
over 3 to 10mm inclusive	±0.3
over 10 to 16mm inclusive	±0.4
over 16 to 50mm inclusive	±0.5
over 50mm	±1.0

Size	Hole Diameter, as Cast		F Drilled Hole Dia.	Y Fastener Engage. Depth
	A -Hole Top Max.	B -Hole Bottom Min.		
MT1.2 x 0.40	1.125	1.100	1.10	3.0
MT1.4 x 0.45	1.315	1.285	1.29	3.5
MT1.6 x 0.55	1.500	1.465	1.47	4.0
MT2.0 x 0.65	1.87	1.83	1.83	5.0
MT2.5 x 0.85	2.33	2.29	2.28	6.3
MT3.0 x 1.00	2.80	2.75	2.73	7.5
MT3.5 x 1.15	3.27	3.21	3.19	8.8
MT4.0 x 1.35	3.73	3.66	3.64	10.0
MT4.5 x 1.50	4.19	4.12	4.09	11.3
MT5.0 x 1.65	4.65	4.57	4.54	12.5
MT6.0 x 2.00	5.58	5.50	5.45	15.0
MT8.0 x 2.40	7.43	7.35	7.26	20.0
MT10.0 x 3.00	9.29	9.21	9.07	25.0
MT12.0 x 3.60	11.14	11.06	10.88	30.0



Blind Cored Hole



Drilled Hole

Total blind hole depth, includes hole entry feature and bottom hole clearance

Bottom hole clearance allows for screw length & laminate tolerance & gasket tolerance (if used) & compression

### NOTES:

1. The suggested minimum length of engagement is 2½ times the nominal screw diameter. The MAGTITE<sup>®</sup> 2000<sup>™</sup> screw is designed, even at the specified hardness range of HRC 33-39 (Vickers 320-380) to fracture as the mode of failure. Other competitive screw designs can require 3 to 3½ x nominal screw diameter to cause failure by screw fracture.

The grade of magnesium, screw surface coating and other factors can influence the mode of failure.

2. Suggested hole sizes listed are ideal starting points for most grades of magnesium. The process used to manufacture the magnesium component, such as squeeze casting or high pressure die casting, can influence the hole size required.



## REMINC/CONTI

### *"The Originators of the TRILOBULAR™ Family of Fasteners"*

Research Engineering & Manufacturing Inc. (REMINC) and CONTI Fasteners A.G (CONTI) have successfully marketed TAPTITE® fastener technology internationally since 1961. Their success has been accomplished by licensing and training leading fastener producers worldwide.

The technical program in the United States is under the direction of REMINC, located in Middletown, Rhode Island and in other countries under the direction of CONTI, situated in Baar, Switzerland.

Although REMINC and CONTI are separate corporations and operate independently, each is dependent on the other for certain functional activities.

### AVAILABILITY

Currently there are 82 qualified producers located in 22 countries utilizing the Technical Know How, Patents, Trademarks and Engineering and Marketing services of REMINC/CONTI.

The proprietary products available in the program are marketed and sold, not as fastener items but rather, as **COST REDUCTIONS TO END-USERS OF ASSEMBLED PRODUCTS.**

## ORDERING/SUPPLY

When ordering from qualified TRILOBULAR™ fastener producers, be sure in all cases to specify the MAGTITE® 2000™ brand name, thread size, nominal length, head and point and property class.

### DISCLAIMER CLAUSE

The values shown in this brochure are for guidance only. They are not meant to be used for design criteria. Their use and reliance thereon for any purpose by anyone is entirely voluntary and at the sole risk of the user. REMINC/CONTI are not responsible for any loss, claim, or damage resulting from their use. Consult our application engineers or the application engineering department of one of our many qualified producers for your specific application data.

### TECHNICAL ASSISTANCE

This brochure contains basic information needed to achieve the cost savings potential of TRILOBULAR™ fasteners.

To obtain further assistance and a list of qualified producers, visit our website at [www.tapitite.com](http://www.tapitite.com) or contact:

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REMINC  
Tel: 401-841-8880  
Fax: 401-841-5008  
Email: [reminc@reminc.net](mailto:reminc@reminc.net)

In Europe and all other countries;  
CONTI Fasteners AG  
TEL: +41 ( 0 ) 41/761 58 22  
Fax: +41 ( 0 ) 41/761 30 18  
Email: [conti@contifasteners.ch](mailto:conti@contifasteners.ch)



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