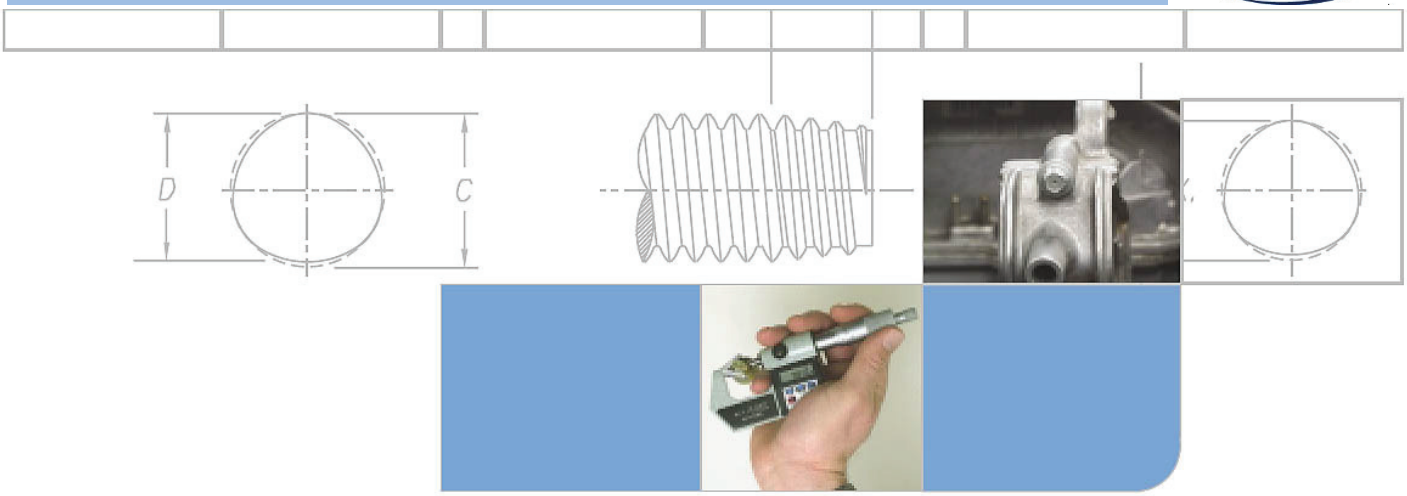
TAPTITE 2000®
THREAD ROLLING FASTENERS



TAPTITE 2000®

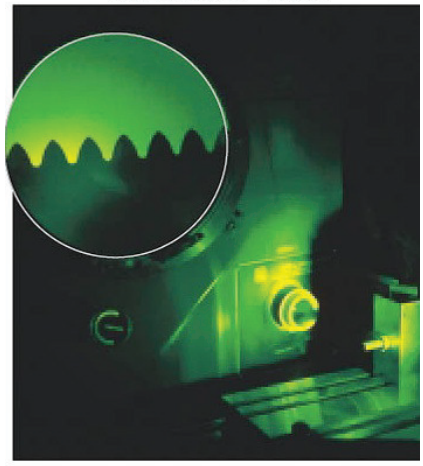
Leaders in Lowering the Cost of Assembly

TAPTITE 2000® Screws and Bolts

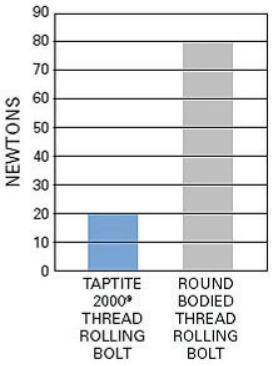
TAPTITE 2000® thread forming technology joins two unique concepts and advances fastener performance to new levels. TAPTITE 2000® fasteners afford end-users with enhanced opportunities to reduce the overall ***Cost of Assembly.***

TAPTITE 2000® fasteners are designed to provide the benefits of prior TAPTITE® fastener products with an innovative new thread design - the **Radius Profile™ Thread**. The proven TRILOBULAR™ principle is maintained while incorporating the Radius Profile™ thread. The result is a new generation of TAPTITE 2000® fasteners, which provides excellent mechanical, assembly, and ergonomic characteristics surpassed by no other technology.

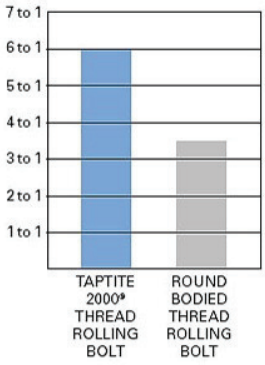
Radius Profile™ Thread



Lower Starting End Load
TAPTITE 2000® fasteners require low axial end load to initiate thread forming.



Higher Fail to Drive Ratio
The higher, more uniform, fail to drive ratio of TAPTITE 2000® bolts provides a built-in safety factor against over-torquing.



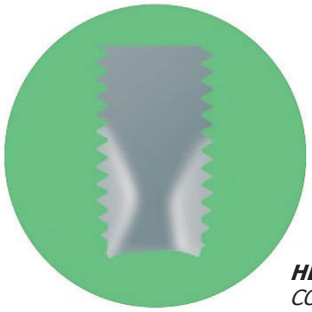
Attribute	Function
Increased out of round of point threads	Low thread forming torque
TRILOBULAR™ body	Resists vibrational loosening Provides prevailing torque Allows deep thread engagements
Reduced out of round on thread body	Provides high axial pull-out loads similar to that achieved using machine screws & bolts

NOTE: End load and fail to drive ratio graphs shown are based on average results recorded when testing an M8 x 1.25 in unthreaded steel weld nuts having a 7.45mm diameter hole.

TAPTITE 2000® HEAT TREATMENT

TAPTITE 2000® bolts perform well in large diameter sizes in deep thread engagements. In the past, the limitations of case-hardened products restricted the exploitation of in-place cost savings for larger diameter TRILOBULAR™ fasteners. However, TAPTITE 2000® screws and bolts are available with 3 different types of heat treatment: CORFLEX®-'I', CORFLEX®-'N', and case hardened, making the fasteners adaptable to a wider variety of applications.

CORFLEX®-'I' Heat Treatment - CORFLEX® -'I' TAPTITE 2000® bolts are neutral hardened to grade strength, metric 8.8, 9.8, 10.9 or any intermediate value. The thread forming zone is selectively induction hardened in order to form threads in untapped nuts. CORFLEX®-'I' heat treatment allows TAPTITE 2000® thread rolling bolts to provide in-place cost savings in large structural applications with strength, ductility and toughness equal to grade strength machine screws or bolts. CORFLEX® -'I' heat treatment to Grade 10.9 level is standard for TAPTITE 2000® bolts in sizes M6 (1/4") and larger.

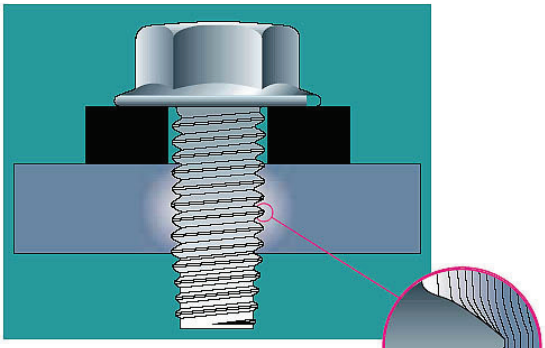


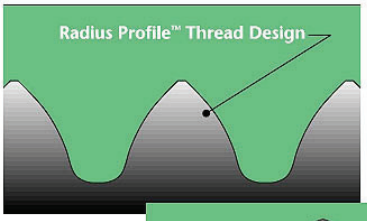
CORFLEX® -'N' Heat Treatment - CORFLEX® -'N' TAPTITE 2000® fasteners are neutral hardened to grade 10.9 strength level. CORFLEX® -'N' products are designed to be used in "soft white" metals such as aluminum or zinc alloys. CORFLEX® -'N' heat treatment can be specified for any size TAPTITE 2000® screws or bolts that are intended to be used in aluminum or zinc alloys.

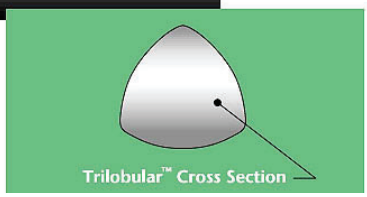
Case Hardening - Case hardening is the standard heat treatment for all TAPTITE 2000® screws in sizes M5 (#12) and smaller.

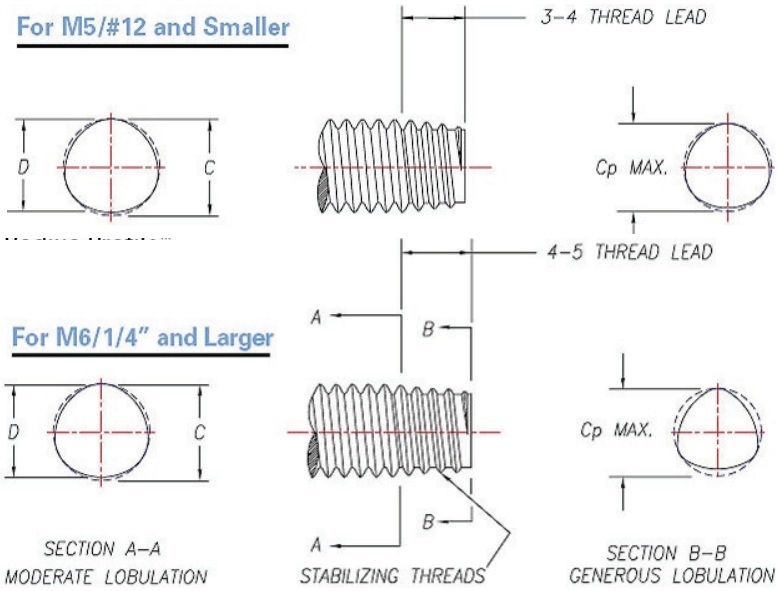
HEAT TAILORED FOR EXTRA TOUGHNESS **-** *Pin-point precision of high hardness zone in axial section of a CORFLEX-'I' fastener is shown by the crescent shaped areas in this chemically etched mount.*

TAPTITE 2000® Screws and Bolts









Advantages of the TAPTITE 2000® Fastener

- "Ergonomically" Friendly
- "Assembly" Friendly
- Superior Vibration Resistance
- Excellent Axial Alignment
- Low End Load
- High Strip-to-Drive Ratio
- High Prevailing Torque
- Excellent Torque Tension Relationship

SCREW SIZE	SCREW BODY DIMENSIONS				Point Cp
	C		D		
	Max	Min	Max	Min	Max
Metric Sizes					
MR1.0 x 0.25	1.000	0.955	0.975	0.924	0.85
MR1.2 x 0.25	1.200	1.155	1.175	1.124	1.05
MR1.4 x 0.30	1.405	1.355	1.375	1.317	1.23
MR1.6 x 0.35	1.610	1.530	1.575	1.486	1.40
MR1.8 x 0.35	1.810	1.730	1.775	1.686	1.60
MR2.0 x 0.40	2.010	1.930	1.970	1.880	1.77
MR2.2 x 0.45	2.210	2.120	2.165	2.064	1.95
MR2.5 x 0.45	2.520	2.430	2.475	2.374	2.25
MR3.0 x 0.50	3.020	2.930	2.970	2.867	2.72
MR3.5 x 0.60	3.520	3.420	3.460	3.345	3.17
MR4.0 x 0.70	4.020	3.920	3.950	3.832	3.61
MR4.5 x 0.75	4.520	4.410	4.445	4.316	4.08
MR5.0 x 0.80	5.020	4.910	4.940	4.810	4.55
MR6.0 x 1.00	6.030	5.900	5.930	5.780	5.38
MR7.0 x 1.00	7.030	6.900	6.930	6.800	6.38
MR8.0 x 1.25	8.030	7.870	7.910	7.710	7.23
MR9.0 x 1.25	9.030	8.870	8.910	8.710	8.23
MR10 x 1.50	10.030	9.850	9.880	9.660	9.08
MR12 x 1.75	12.040	11.830	11.870	11.610	10.92
MR14 x 2.00	14.040	13.810	13.840	13.560	12.77
MR16 x 2.00	16.040	15.810	15.840	15.560	14.76
MR18 x 2.50	18.040	17.760	17.790	17.450	16.46
MR20 x 2.50	20.040	19.760	19.790	19.450	18.45

SCREW SIZE	SCREW BODY DIMENSIONS				Point Cp
	C		D		
	Max	Min	Max	Min	Max
Inch Sizes					
IR0 x 80	0.0626	0.0586	0.0613	0.0570	0.0600
IR2 x 56	0.0880	0.0840	0.0862	0.0818	0.0770
IR3 x 48	0.1010	0.0970	0.0989	0.0944	0.0890
IR4 x 40	0.1138	0.1098	0.1113	0.1067	0.0990
IR5 x 40	0.1268	0.1228	0.1243	0.1197	0.1120
IR6 x 32	0.1413	0.1353	0.1382	0.1314	0.1230
IR8 x 32	0.1674	0.1614	0.1643	0.1575	0.1490
IR10 x 24	0.1934	0.1874	0.1892	0.1822	0.1690
IR10 x 32	0.1936	0.1876	0.1905	0.1837	0.1750
IR12 x 24	0.2194	0.2134	0.2152	0.2082	0.1950
IR1/4 x 20	0.2534	0.2474	0.2484	0.2411	0.2200
IR5/16 x 18	0.3158	0.3098	0.3102	0.3029	0.2790
IR3/8 x 16	0.3784	0.3724	0.3721	0.3646	0.3370
IR7/16 x 14	0.4409	0.4349	0.4338	0.4260	0.3940
IR7/16 x 20	0.4412	0.4520	0.4362	0.4289	0.4070
IR1/2 x 13	0.5033	0.4973	0.4956	0.4877	0.4530
IR9/16 x 12	0.5668	0.5588	0.5585	0.5484	0.5110
IR5/8 x 11	0.6294	0.6214	0.6203	0.6100	0.5690

Length Tolerance - Metric per ANSI B18.6.7M	
Nominal Screw Length	Tolerance on Length
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

Length Tolerance - Inch per ANSI B.18.6.3		
Nominal Screw Length	Nominal Screw Size	
	#0 - #12	1/4" - 1/2"
	Tolerance on Length (inches)	
to 1/2" inclusive	+0, -.020	+0, -.030
over 1/2" to 1" inclusive	+0, -.030	+0, -.030
over 1" to 2" inclusive	+0, -.060	+0, -.060
over 2"	+0, -.090	+0, -.090