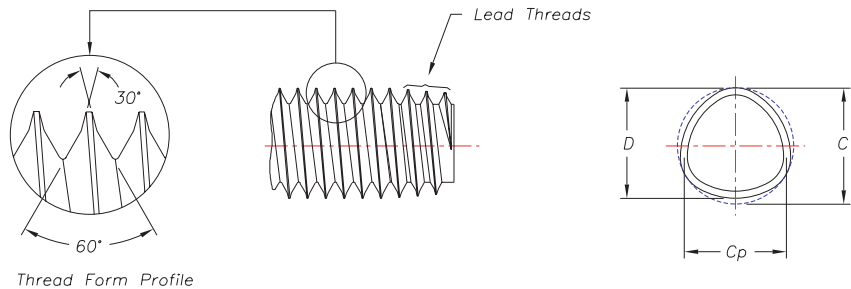




POWERLOK® All Metal Locking Screws



FOR BETTER FASTENING AT LOWEST IN-PLACE COST

- Enhanced locking ability
- Continuous locking action
- Resistant to high temperatures
- Reusable
- No special taps

Enhanced locking ability – “POWERLOK® TRILOBULAR™ self locking screws are a unique concept in locking screws.” Made from high strength steel, hardened and tempered to an optimum strength-toughness serviceability, the POWERLOK® screw achieves enhanced locking ability through the combination of a novel 60°-30° thread form and a TRILOBULAR™ thread body section. A significant mechanical advantage of this design is that the locking action is developed at the outermost radius of the torque arm of the screw body, whereas other locking screws develop their effective resistance at lesser radius points on thread flanks, down even to the thread root surface. The deeper geometry of the POWERLOK® thread, along with a slight increase in the thread major diameter over equivalent size machine screw, adds to the effective stripping resistance of the fastener. In addition, the centralization of the POWERLOK® lobes in the nut member thread allows the 30° thread crest on the fastener to flex elastically under clamp load, simulating the live action of spring washers.

Continuous locking action – POWERLOK® screws do not have to be seated to lock, as the locking thread feature extends the entire length of the fastener. They resist vibration at any point along their body length. POWERLOK® fasteners are excellent adjusting screws. The locking action is instantaneous and, unlike chemical locking agents, no reaction or curing time is required.

Resistant to high temperatures – POWERLOK® screws do not lose their action or efficiency in high temperature environments. Non-metallic additives featured with many lock screws lose much or all of their developed force or deteriorate with a time under the influence of temperatures of 200°F or higher. POWERLOK®, being an all-metal locking fastener, is unaffected by these or higher operating temperatures.

POWERLOK® - Metric Standards

NOMINAL SIZE OF SCREW	DIMENSIONS THREAD BODY (millimeters)				POINT DIAMETER OF CIRCUMSCRIBING CIRCLE CP
	DIAMETER OF CIRCUMSCRIBING CIRCLE C		MEASUREMENT ACROSS CENTER D		
	MAX.	MIN.	MAX.	MIN.	
M3.5 x .6	3.69	3.59	3.57	3.47	3.50
M4 x .7	4.22	4.10	4.08	3.96	4.00
M5 x .8	5.26	5.13	5.10	4.97	5.00
M6 x 1	6.30	6.15	6.10	5.95	6.00
M8 x 1.25	8.35	8.20	8.10	7.95	8.00
M10 x 1.5	10.40	10.25	10.10	9.95	10.00
M12 x 1.75	12.45	12.30	12.10	11.95	12.00

POWERLOK® - Inch Standards

NOMINAL SIZE OF SCREW	DIMENSIONS THREAD BODY (inches)				POINT DIAMETER OF CIRCUMSCRIBING CIRCLE CP
	DIAMETER OF CIRCUMSCRIBING CIRCLE C		MEASUREMENT ACROSS CENTER D		
	MAX.	MIN.	MAX.	MIN.	
4-40	0.1170	0.1120	0.1120	0.1070	0.112
5-40	0.1310	0.1250	0.1260	0.1200	0.125
6-32	0.1470	0.1410	0.1410	0.1350	0.138
8-32	0.1725	0.1665	0.1665	0.1605	0.164
10-24	0.2050	0.1980	0.1970	0.1900	0.190
10-32	0.1995	0.1925	0.1935	0.1865	0.190
12-24	0.2310	0.2240	0.2230	0.2160	0.216
1/4-20	0.2695	0.2615	0.2595	0.2515	0.250
5/16-18	0.3315	0.3235	0.3205	0.3125	0.312
3/8-16	0.3945	0.3865	0.3820	0.3740	0.375
7/16-14	0.4595	0.4515	0.4455	0.4375	0.437
1/2-13	0.5235	0.5155	0.5080	0.5000	0.500

Length Tolerance - Inch - Per ANSI B18.6.3

Nominal Screw Length	Nominal Screw Size	
	#4-#12	1/4"-1/2"
	Tolerance on Length	
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

Length Tolerance - Metric - Per ANSI B18.6.7M

Nominal Screw Length	Tolerance on Length
	mm
to 3mm incl.	± 0.2
over 3 to 10mm	± 0.3
over 10 to 16mm	± 0.4
over 16 to 50mm	± 0.5
over 50mm	± 1.0

Exceed IFI locking screw standards Has locking action you can't wear out!

Reusable - Subjecting the POWERLOK® screw to increasing clamp load results in continuously increasing thread flank contact so that unit pressure between mating surfaces tends to remain constant, an important factor in diminishing galling and abrasion. Together with the burnishing action of the TRILOBULAR™ crests means continued locking effectiveness, after repeated insertions and removals.

Locking performance - Will meet or exceed IFI 124 (inch) or IFI 524 (metric) Specifications for Prevailing Torque Locking Screws. Transverse vibration test data available upon request. Actual performance will vary depending on effective finish lubricity and nut condition.

No special taps - You save time and money by using a regular nut or Class 2B (6G) tapped hole. POWERLOK® is precision made - so the hole thread doesn't have to be.

Applications - Widely used in automotive and other mass-assembly operations. You can use POWERLOK® screws wherever you need reliable vibration resistance, continued high performance, despite repeated assembly/disassembly, using normal tapped holes. They can be used in pre-tapped holes in ductile metals.

STANDARD MATERIAL - Depending on part size, low carbon, medium carbon or alloy steel is selected. Then the steel is hardened and tempered to the optimum combination of tensile strength and toughness. Tensile or torsional strength can be more than twice that of machine screws. Screws can be made in strength levels to suit a wide range of application requirements. Property Class 10.9 is often preferred. Finishes can be supplied as required.

KLEERLOK® Thread Clearing Lock Screw

The KLEERLOK® feature is designed to be used in conjunction with TRILOBULAR™ fasteners in pre-tapped holes which may be contaminated with weld splatter, paint, primer or other foreign matter.

The KLEERLOK® feature can be combined on a POWERLOK® screw for paint clearing and locking torque or on a reduced diameter TAPTITE® screw as a version for joints where classical torque-tension fastening rather than a locking screw is desired.

KLEERLOK® Point Form

