

## 48-2 Tri-Lobe Thread Rolling Screws For Plastics

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### Screws for Plastics

48-2 tri-lobe thread rolling screws are suitable generic alternatives to Plastite® brand screws. They are thread-rolling screws with a Trilobular® thread configuration specifically designed for use in plastics.

### For Optimal Grip

These tri-lobe thread rolling screws have a deep and narrow 48 degree thread profile with extra wide spacing between threads and a twin lead thread (see Fig 1). The threads have a pitch about twice that of a machine screw of same dimensions. This thread profile improves thread-forming and thread engagement within the plastic. In addition, these screws have a 3-lobe Trilobular® thread configuration which improves displacement of material into relief areas between lobes when driven into plastic. This further increases the resistance to vibrational loosening forces eliminating the need for inserts and/or lock washers. These specialized threads also improve the integrity of the internal mating threads, which reduces material failure and increases holding power in plastic materials. The improved thread integrity also reduces stripping, pull-out and permits repeated removal and insertion into the same tapped hole.

### Easier to Drive

The slightly tapered point and twin lead thread offers quicker and more effective screw penetration into the substrate. The twin lead thread penetrates the substrate about twice as fast as a fastener with comparable pitch and single lead thread. The three lobed design of the thread with full relief of the thread form allows recovery of the substrate and filling-in between the lobes when turning. These features decrease the driving force needed during penetration of the screw. The types and grades of plastics vary greatly as do the requirements for specific applications (eg. depth of engagement and manufacturing specifics). For this reason, it is essential to first establish the ideal size of the pilot hole for each application. Recommended pilot hole sizes for 48-2 Tri-Lobe thread rolling screws for plastics alternative screws of given diameters are available in the table 1.

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## Technical Specifications and Recommended Pilot Hole Sizes for 48-2 Tri-Lobe Thread Rolling Screws



Screw Size	"C"		"D"		Minimum out of Round	Recommended Pilot Hole Size	
	Circumscribing circle		Across Center			Soft Ductile Materials	Brittle Materials
	max	min	max	min			
0-40	0.0665	0.0635	0.0635	0.0605	0.002	0.0498	0.0490
2-28	0.092	0.086	0.089	0.083	0.002	0.076	0.080
3-24	0.110	0.104	0.106	0.100	0.002	0.088	0.094
4-20	0.127	0.121	0.123	0.117	0.002	0.100	0.106
5-20	0.136	0.132	0.123	0.117	0.002	-	-
6-19	0.147	0.141	0.143	0.137	0.003	0.122	0.128
7-18	0.166	0.160	0.160	0.154	0.004	0.134	0.142
8-16	0.185	0.179	0.179	0.173	0.004	0.149	0.158
9-15	0.199	0.193	0.193	0.187	0.004	0.162	0.172
10-14	0.212	0.206	0.208	0.202	0.004	0.175	0.185
12-11	0.235	0.229	0.230	0.224	0.005	0.195	0.206
1/2-14	0.232	0.226	0.226	0.220	0.005	0.195	0.205
1/4-10	0.276	0.270	0.268	0.262	0.006	0.224	0.240
5/16-9	0.345	0.336	0.335	0.325	0.006	0.286	0.303
Tolerances on length	0 thru 1/4'		thru 3/4" +/- 0.030"		> 3/4" +/- 0.050"		
	> 1/4" dia		all lengths +/- 0.050"				
unless otherwise specified, all dimensions are in inches							

table 1

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**Description:**

Tri-lobe thread rolling screw having twin lead thread design; deep and narrow 48 degree thread profile and extra wide spacing between threads and a 1-2 thread tapered point.

**Applications:**

Specifically designed screw for use in plastics (thermoplastics, engineering resins, thermosets). The specialized thread profile improves the internal thread quality enhancing holding power, and thereby reduces stripping and pull-out and allows for repeated removal and insertion into the same tapped hole.

**Material:**

- AISI1022 steel or equivalent quench and tempered case hardened to Rockwell C45 min (core hardness Rockwell C28-38)
- 18-8 stainless steel (core hardness Rockwell B90-C20)
- 410 austenitic stainless steel - annealed, quench and tempered (core hardness Rockwell C34-C42)

**Plating:**

Carbon steel screws are available in clear zinc, black zinc and black oxide.  
Stainless steel screws have no additional coating

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## 48-2 Tri-Lobe Thread Rolling Screws Available from Aspen Fasteners

### [SC196](#)

48-2 Tri-Lobe Thread Rolling Screws - Flat Phillips Drive Steel, Black Oxide Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC198](#)

48-2 Tri-Lobe Thread Rolling Screws - Flat 6-Lobe Drive Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC200](#)

48-2 Tri-Lobe Thread Rolling Screws - Flat Undercut 6-Lobe Drive Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC202](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan Phillips Drive Steel, Black Oxide Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC204](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan 6-Lobe Drive Steel, Black Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC206](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan 6-Lobe Drive Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC208](#)

48-2 Tri-Lobe Thread Rolling Screws - Hex Indented Washer Slotted - Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC210](#)

48-2 Tri-Lobe Thread Rolling Screws - Hex Indented Washer Unslotted - Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC197](#)

48-2 Tri-Lobe Thread Rolling Screws - Flat Phillips Drive Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC199](#)

48-2 Tri-Lobe Thread Rolling Screws - Flat Undercut Phillips Drive Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC201](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan Phillips Drive Steel, Black Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC203](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan Phillips Drive Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC205](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan 6-Lobe Drive Steel, Black Oxide Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC207](#)

48-2 Tri-Lobe Thread Rolling Screws - Truss Phillips Drive Steel, Zinc Full Thread 48 degree Thread Profile with 2 Lead Threads

### [SC209](#)

48-2 Tri-Lobe Thread Rolling Screws - Hex Indented Washer Unslotted - Steel, Black Oxide Full Thread 48 degree Thread Profile with 2 Lead Threads

### [ST105](#)

48-2 Tri-Lobe Thread Rolling Screws - Flat Phillips Drive Stainless Steel, Full Thread 48 degree Thread Profile with 2 Lead Threads



All your fastener needs from a single source

[ST106](#)

48-2 Tri-Lobe Thread Rolling Screws - Flat Undercut Phillips Drive Stainless Steel, Full Thread 48 degree Thread Profile with 2 Lead Threads

[ST108](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan Phillips Drive 410 Stainless Steel, Full Thread 48 degree Thread Profile with 2 Lead Threads

[ST110](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan 6-Lobe Drive 410 Stainless Steel, Full Thread 48 degree Thread Profile with 2 Lead Threads

[ST107](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan Phillips Drive 18-8 Stainless Steel, Full Thread 48 degree Thread Profile with 2 Lead Threads

[ST109](#)

48-2 Tri-Lobe Thread Rolling Screws - Pan 6-Lobe Drive 18-8 Stainless Steel, Full Thread 48 degree Thread Profile with 2 Lead Threads

[ST111](#)

48-2 Tri-Lobe Thread Rolling Screws - Hex Indented Washer Unslotted - Stainless Steel, Full Thread 48 degree Thread Profile with 2 Lead Threads

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