

48-2 Trilobular Thread Rolling Screws (48-2 Plastite™ Alternative)

Screws for Plastics

48-2 trilobular thread rolling screws are suitable alternatives to 48-2 Plastite™ screws. Like their Plastite™ counterparts, they are trilobular thread-rolling screws with a specialized thread configuration specifically designed for use in plastics.

For Optimal Grip

48-2 Plastite™ alternative trilobular 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 trilobular 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 plastite alternative screws of given diameters are available in the table 1.

Aspen Fasteners 4807 Rockside Road, Suite 400, Independence, OH 44131 USA
www.aspenfasteners.com | aspensales@aspenfasteners.com | 1-800-479-0056

Technical Specifications and Recommended Pilot Hole Sizes for 48-2 Trilobular Thread Rolling Screws (Plastite™ Alternative 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			
0-48	0.0665	0.0635	0.0635	0.0605	-	0.048	0.056
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
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:

Trilobular 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 plastite™ alternative screws are available in clear zinc, black zinc and black oxide. Stainless steel Plastite™ alternative screws have no additional coating

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Headquarters: Independence OH USA; Montreal QC Canada;
Distribution Centers: Boston MA; Chicago IL; Cincinnati KY; Dallas TX; Denver CO; Houston TX; Jersey City NJ; Los Angeles CA; Miami FL; San Francisco CA; Seattle WA; Washington VA; Toronto ON; Calgary AB; Vancouver BC; Jiutepec (Temixco); Mexico City; Monterrey

Plastite™- Alternative Screws Available from Aspen Fasteners

[SC196](#)

Plastite Alternative Screws - Flat Phillips Drive Steel, Black Oxide Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC198](#)

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

[SC200](#)

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

[SC202](#)

Plastite Alternative Screws - Pan Phillips Drive Steel, Black Oxide Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC204](#)

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

[SC206](#)

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

[SC208](#)

Plastite Alternative Screws - Hex Indented Washer Slotted - Steel, Zinc Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC210](#)

Plastite Alternative Screws - Hex Indented Washer Unslotted - Steel, Zinc Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC197](#)

Plastite Alternative Screws - Flat Phillips Drive Steel, Zinc Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC199](#)

Plastite Alternative Screws - Flat Undercut Phillips Drive Steel, Zinc Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC201](#)

Plastite Alternative Screws - Pan Phillips Drive Steel, Black Zinc Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC203](#)

Plastite Alternative Screws - Pan Phillips Drive Steel, Zinc Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC205](#)

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

[SC207](#)

Plastite Alternative Screws - Truss Phillips Drive Steel, Zinc Full Thread
48 degree Thread Profile with 2 Lead Threads

[SC209](#)

Plastite Alternative Screws - Hex Indented Washer Unslotted - Steel, Black Oxide Full Thread
48 degree Thread Profile with 2 Lead Threads

[ST105](#)

Plastite Alternative Screws - Flat Phillips Drive Stainless Steel, Full Thread
48 degree Thread Profile with 2 Lead Threads



[ST106](#)

Plastite Alternative Screws - Flat Undercut Phillips Drive
Stainless Steel, Full Thread
48 degree Thread Profile with 2 Lead Threads

[ST108](#)

Plastite Alternative Screws - Pan Phillips Drive
410 Stainless Steel, Full Thread
48 degree Thread Profile with 2 Lead Threads

[ST110](#)

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

[ST107](#)

Plastite Alternative Screws - Pan Phillips Drive
18-8 Stainless Steel, Full Thread
48 degree Thread Profile with 2 Lead Threads

[ST109](#)

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

[ST111](#)

Plastite Alternative Screws - Hex Indented Washer
Unslotted - Stainless Steel, Full Thread
48 degree Thread Profile with 2 Lead Threads

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