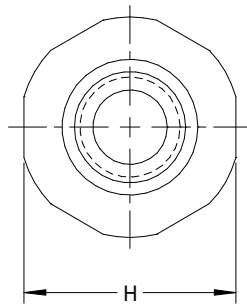


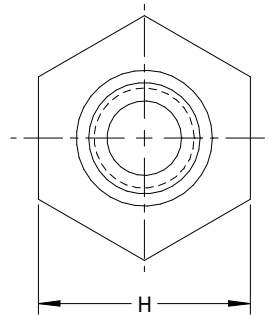
Concealed-Head Self-Clinching Standoffs

FEATURES & BENEFITS

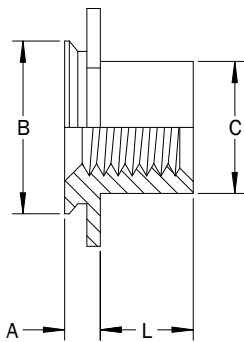
- Precisely space stacked and/or mating panels and chasses.
- Installed in counterbored holes that allow an unblemished appearance on the back sides of sheets.
- Single-side installation maintains a complete seal between both sides of sheets to prevent passage of liquids and debris.
- Available in a wide variety of thread sizes and lengths.



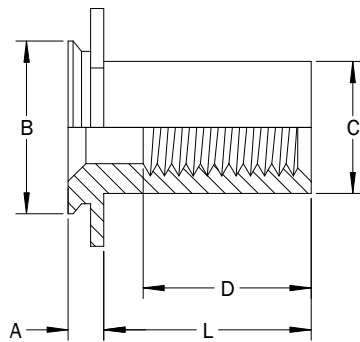
SERIES TB
(For .062" (1.60 mm) Min. Thick Sheets)



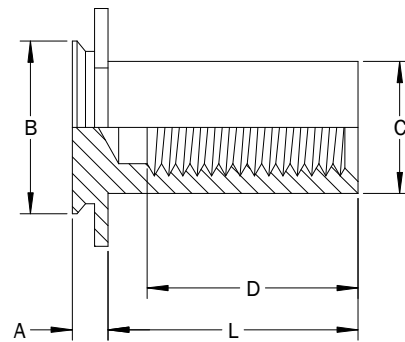
SERIES TA
(For .093" (2.40 mm) Min. Thick Sheets)



TYPE 1
(Thru)



TYPE 2
(Screw will not pass thru unthreaded end)



TYPE 3
(Blind)

PART DESCRIPTION EXAMPLE

TASS — 440 — .250 — P
 T T T
 Series Thread Length
 Code Code

MATERIAL AND FINISH

300-Series Stainless Steel/Passivated and/or
Tested per ASTM A967.

TA and TB Concealed-Head Self-Clinching Standoffs

GENERAL

All dimensions in inches

	Thread	Thread Code	Series Code	Sheet				A Maximum	B Maximum	C Maximum	D Minimum Thread Depth	H Nominal
				Minimum Thickness	Blind Mounting Hole Diameter +.003 -.000	Minimum Depth of Blind Hole (1)	Minimum Distance Hole Center to Edge					
INCH	4-40	440	TB	.062	.213	.043	.188	.041	.212	.165	.188	.250
			TA	.093		.075		.072				
	6-32	632	TB	.062	.290	.043	.219	.041	.289	.213	.250	.312
			TA	.093		.075		.072				
	8-32	832	TB	.062	.312	.043	.250	.041	.311	.245	.250	.344
			TA	.093		.075		.072				
	10-32	1032	TB	.062	.344	.043	.281	.041	.343	.290	.375	.375
			TA	.093		.075		.072				
	1/4-20	2520	TB	.062	.390	.043	.375	.041	.389	.354	.375	.438
			TA	.093		.075		.072				

All dimensions in millimeters

	Thread	Thread Code	Series Code	Sheet				A Maximum	B Maximum	C Maximum	D Minimum Thread Depth	H Nominal
				Minimum Thickness	Blind Mounting Hole Diameter +0.08 -0.00	Minimum Depth of Blind Hole (1)	Minimum Distance Hole Center to Edge					
METRIC	M3 x 0.5	M3	TB	1.60	5.41	1.10	4.80	1.04	5.39	4.20	5.00	6.35
			TA	2.40		1.91		1.83				
	M3.5 x 0.6	M3.5	TB	1.60	7.37	1.10	5.56	1.04	7.34	5.41	6.35	7.92
			TA	2.40		1.91		1.83				
	M4 x 0.7	M4	TB	1.60	7.92	1.10	6.40	1.04	7.90	6.23	6.50	8.74
			TA	2.40		1.91		1.83				
	M5 x 0.8	M5	TB	1.60	8.74	1.10	7.20	1.04	8.72	7.37	9.60	9.53
			TA	2.40		1.91		1.83				
	M6 x 1	M6	TB	1.60	9.90	1.10	9.50	1.04	9.89	9.00	9.60	11.11
			TA	2.40		1.91		1.83				

(1) When blind holes are deeper than the minimum required ensure there is enough material remaining in the sheet particularly when the sheet material is at, or near, minimum thickness.

TA and TB Concealed-Head Self-Clinching Standoffs

LENGTH

All dimensions in inches

INCH	Thread Code	Series Code	L (Length) +.002/-.005							
	440	TB	.187 ⁽¹⁾	.250 ⁽²⁾	.312 ⁽²⁾	.375 ⁽²⁾	.500 ⁽³⁾	.625 ⁽³⁾	.750 ⁽³⁾	1.000 ⁽³⁾
		TA								
	632	TB	.187 ⁽¹⁾	.250 ⁽¹⁾	.312 ⁽²⁾	.375 ⁽²⁾	.500 ⁽³⁾	.625 ⁽³⁾	.750 ⁽³⁾	1.000 ⁽³⁾
		TA								
	832	TB	.187 ⁽¹⁾	.250 ⁽¹⁾	.312 ⁽²⁾	.375 ⁽²⁾	.500 ⁽³⁾	.625 ⁽³⁾	.750 ⁽³⁾	1.000 ⁽³⁾
		TA								
	1032	TB	.187 ⁽¹⁾	.250 ⁽¹⁾	.312 ⁽¹⁾	.375 ⁽¹⁾	.500 ⁽²⁾	.625 ⁽³⁾	.750 ⁽³⁾	1.000 ⁽³⁾
		TA								
	2520	TB	.187 ⁽¹⁾	.250 ⁽¹⁾	.312 ⁽¹⁾	.375 ⁽¹⁾	.500 ⁽²⁾	.625 ⁽²⁾	.750 ⁽³⁾	1.000 ⁽³⁾
		TA								

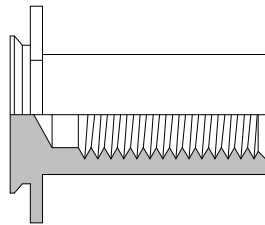
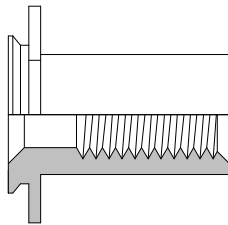
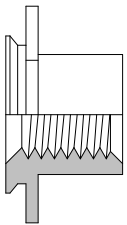
All dimensions in millimeters

METRIC	Thread Code	Series Code	L (Length) +0.05/-0.13							
	M3	TB	4 ⁽¹⁾	6 ⁽¹⁾	8 ⁽²⁾	10 ⁽³⁾	12 ⁽³⁾	16 ⁽³⁾	20 ⁽³⁾	25 ⁽³⁾
		TA			8 ⁽³⁾					
	M3.5	TB	4 ⁽¹⁾	6 ⁽¹⁾	8 ⁽²⁾	10 ⁽²⁾	12 ⁽³⁾	16 ⁽³⁾	20 ⁽³⁾	25 ⁽³⁾
		TA								
	M4	TB	4 ⁽¹⁾	6 ⁽¹⁾	8 ⁽²⁾	10 ⁽²⁾	12 ⁽³⁾	16 ⁽³⁾	20 ⁽³⁾	25 ⁽³⁾
		TA				10 ⁽³⁾				
	M5	TB	4 ⁽¹⁾	6 ⁽¹⁾	8 ⁽¹⁾	10 ⁽²⁾	12 ⁽²⁾	16 ⁽³⁾	20 ⁽³⁾	25 ⁽³⁾
		TA								
	M6	TB	4 ⁽¹⁾	6 ⁽¹⁾	8 ⁽¹⁾	10 ⁽²⁾	12 ⁽²⁾	16 ⁽³⁾	20 ⁽³⁾	25 ⁽³⁾
		TA								

(1) TYPE 1

(2) TYPE 2

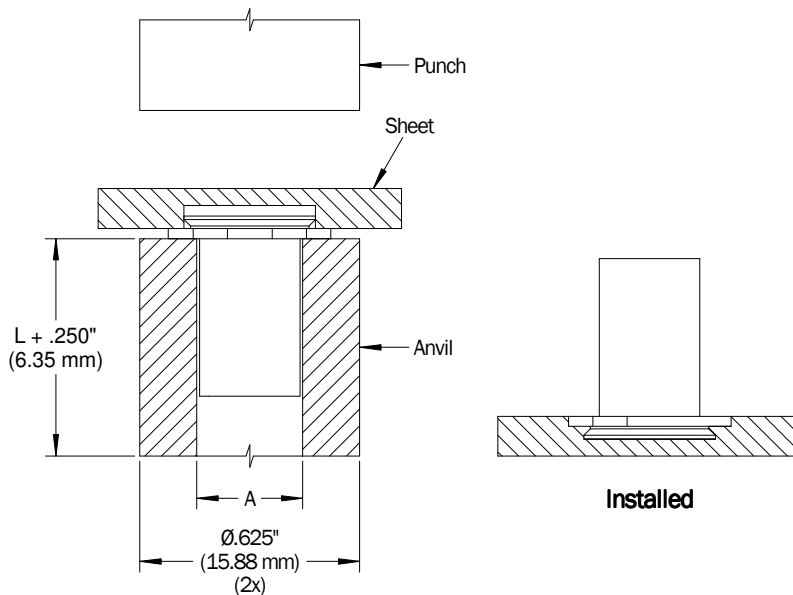
(3) TYPE 3



(4) Screws with lengths exceeding "L" for TYPE 1 standoffs may cause jack-out from the sheet.

INSTALLATION

1. Mill a blind hole in the sheet to the specified diameter and depth.
2. Insert standoff into the anvil and place sheet mounting hole over the standoff shank.
3. Squeeze the sheet and standoff between parallel anvil and punch surfaces using only enough pressure to seat the standoff flange flush with the sheet. Anvil and punch should be made from hardened tool steel.
4. When blind holes are deeper than the minimum required, ensure there is enough material remaining in the sheet particularly when sheet material is at, or near, minimum thickness.



ANVIL DIMENSIONS

INCH	Thread Code	A +.003 -.000
	440	.170
	632	.218
	832	.250
	1032	.295
	2520	.358

All dimensions in inches

METRIC	Thread Code	A +0.08 -0.00
	M3	4.33
	M3.5	5.54
	M4	6.36
	M5	7.50
	M6	9.13

All dimensions in millimeters

TA and TB Concealed-Head Self-Clinching Standoffs

PERFORMANCE

INCH	Thread Code	Series Code	Rec. Tightening Torque for Mating Screw (in-lbs) (1)	Test Sheet Material			
				5052-H34 Aluminum		Carbon Steel	
				Installation (lbs)	Pull-out (lbs) (2)	Installation (lbs)	Pull-out (lbs) (2)
	440	TB	5.2	2400-3200	170-230	3400-4600	255-345
		TA		2450-3350	185-255	3650-4950	280-380
	632	TB	9.6	2550-3450	205-275	3850-5200	300-400
		TA		2700-3700	205-275	4250-5750	305-415
	832	TB	19.8	3400-4600	230-310	4100-5500	340-460
		TA		3400-4600	255-345	4500-6100	375-505
	1032	TB	31.7	4250-5750	245-335	4700-6300	385-520
		TA		4250-5750	340-460	5100-6900	510-690
	2520	TB	75.2	4700-6300	255-345	6100-8300	405-545
		TA		4700-6300	365-495	6100-8300	555-745

METRIC	Thread Code	Series Code	Rec. Tightening Torque for Mating Screw (N-m) (1)	Test Sheet Material			
				5052-H34 Aluminum		Carbon Steel	
				Installation (kN)	Pull-out (N) (2)	Installation (kN)	Pull-out (N) (2)
	M3	TB	1.0	10.6-14.4	755-1020	15.1-20.5	1130-1530
		TA		11.0-14.8	830-1120	16.3-22.1	1250-1680
	M3.5	TB	1.1	11.3-15.3	905-1230	17.0-23.0	1320-1790
		TA		12.1-16.4	905-1230	18.9-25.6	1360-1840
	M4	TB	2.6	15.1-20.5	1020-1380	18.1-24.5	1510-2040
		TA		15.1-20.5	1130-1540	20.1-27.1	1660-2250
	M5	TB	5.1	18.9-25.5	1100-1480	20.8-28.2	1700-2300
		TA		18.9-25.5	1510-2040	22.7-30.7	2270-3060
	M6	TB	8.7	20.8-28.1	1130-1530	27.2-36.8	1800-2430
		TA		20.8-28.1	1630-2200	27.2-36.8	2430-3290

- (1) Recommended mating screw tightening torque values shown represent published industry data for 18-8 stainless steel screws. Information shown should be considered as estimates only with testing in the application to determine actual torques. Consult PENCOM technical literature for additional recommendations on determining tightening torques.
- (2) Pull-out values are for standoffs only and not the mating fasteners.
- (3) Performance data are shown in ranges and should be used for estimating purposes only as actual results may be affected by variations in installation and panel preparation equipment and procedures; and panel hardness, hole size, material and thickness. PENCOM strongly recommends testing in each application to determine actual loads.