



INNOVATION

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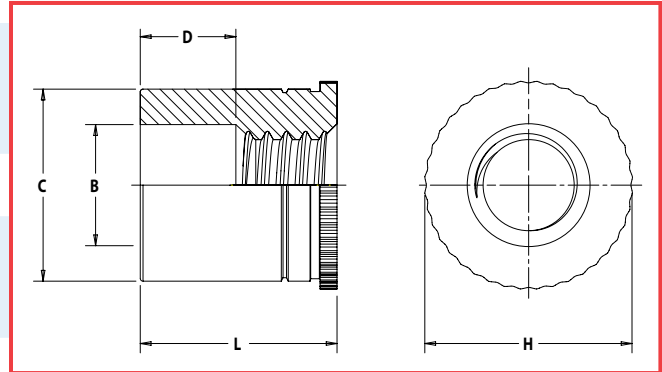
BRIEF

Standoffs For Hard Panels

Innovation: Self-clinching Standoffs for use in high strength (HSLA) steels.

Features and Benefits:

- Installs into thin, harder, high strength steel materials.
- Close to edge of panel mounting.
- No embossing required.
- Flush on reverse side of panel.
- Hardened standoff material provides stronger thread strength.
- Can be installed automatically using press or in-die technology.



GENERAL DIMENSIONAL DATA

All dimensions are in inches.

	Thread Size	Type	Thread Code	Length Code "L" $\pm.002$ $-.005$ (Length Code in 32nds of an inch)						Min. Sheet Thickness	Hole Size in Sheet $+.002$ $-.000$	B Counterbore Dia. $\pm.005$	C $+.000$ $-.005$	H Nom.	Min. Dist. Hole \varnothing To Edge	
				.125	.187	.250	.312	.375	.437							.500
UNIFIED	.112-40 (#4-40)	SOH4	440	4	6	8	10	12	14	16	.040	.195	.125	.195	.218	.160
	.138-32 (#6-32)	SOH4	632	4	6	8	10	12	14	16	.040	.227	.156	.227	.250	.190
	.164-32 (#8-32)	SOH4	832	4	6	8	10	12	14	16	.040	.287	.188	.287	.310	.250
	.190-32 (#10-32)	SOH4	032	4	6	8	10	12	14	16	.040	.287	.203	.287	.310	.250
D Dimension $\pm.010$				None						.187						

All dimensions are in millimeters.

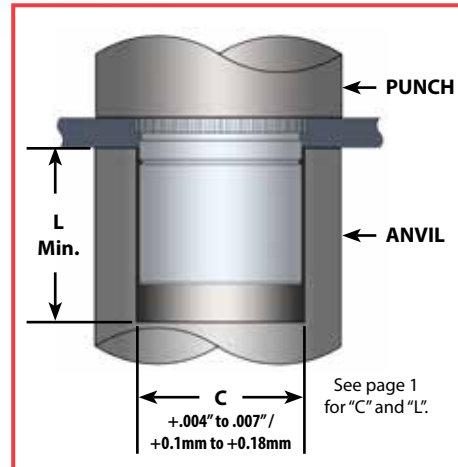
	Thread Size x Pitch	Type	Thread Code	Length Code "L" ± 0.05 -0.13 (Length Code in millimeters)						Min. Sheet Thickness	Hole Size in Sheet $+0.05$	B Counterbore Dia. ± 0.13	C -0.13	H Nom.	Min. Dist. Hole \varnothing To Edge	
				3	4	6	8	10	12							14
METRIC	M3 x 0.5	SOH4	M3	3	4	6	8	10	12	14	1	4.95	3.2	4.95	5.5	4
	M3.5 x 0.6	SOH4	M3.5	3	4	6	8	10	12	14	1	5.77	3.9	5.77	6.35	5
	M4 x 0.7	SOH4	M4	3	4	6	8	10	12	14	1	7.3	4.8	7.3	7.9	6.35
	M5 x 0.8	SOH4	M5	3	4	6	8	10	12	14	1	7.3	5.35	7.3	7.9	6.35
D Dimension ± 0.25				None						5						

Threads: Internal, ASME B1.1, 2B / ASME B1.13M, 6H
Material: 400 Series Stainless Steel
Standard Finish: Passivated and/or tested per ASTM A380
For use in sheet hardness: HV 360 or less (Vickers Hardness Scale)

Innovation Brief / Nuts For Hard Panels

Installation

1. Prepare properly sized mounting hole in sheet. Do not perform any secondary operation such as deburring.
2. Insert standoff through mounting hole (preferably the punch side) of sheet and into anvil as shown in drawing.
3. With installation punch and anvil surfaces parallel, apply only enough squeezing force to embed the standoff's head flush in the sheet.

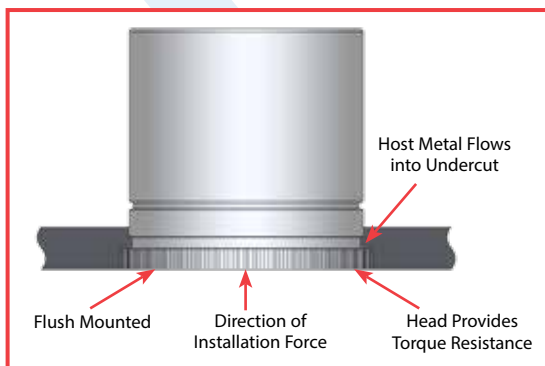


Performance Data⁽¹⁾

UNIFIED	Thread Code	Max. Rec. Tightening Torque For Mating Screw (in. lbs.)	Test Sheet Material			
			.050" 300 Series Stainless Steel			
			Installation (lbs.)	Pushout (lbs.)	Torque-out (in. lbs.) (2)	Pull-thru (lbs.) (2)
440	4.75	7200	336	17	600	
632	8.75	9500	647	30	680	
832	18	10500	900	71	1517	
032	32	10500	900	71	1368	

METRIC	Thread Code	Max. Rec. Tightening Torque For Mating Screw (N•m)	Test Sheet Material			
			.050" 300 Series Stainless Steel			
			Installation (kN)	Pushout (N)	Torque-out (N•m) (2)	Pull-thru (N) (2)
M3	0.55	32	1493	2.36	2650	
M3.5	0.91	42.3	2877	3.06	3025	
M4	2	46.7	4003	8.89	6458	
M5	3.6	46.7	4003	8.89	6226	

- (1) **Published installation forces are for general reference. Actual set-up and confirmation of complete installation should be made by observing proper seating of fastener as described in the installation steps. Other performance values reported are averages when all proper installation parameters and procedures are followed. Variations in mounting hole size, sheet material, and installation procedure may affect performance. Performance testing this product in your application is recommended. We will be happy to provide technical assistance and/or samples for this purpose.**
- (2) **Joint failure in torque-out and pull-thru will depend on the strength and type of screw being used. In some cases the failure will be in the screw and not in the self-clinching standoff. Please contact our Applications Engineering group with any questions.**



Basics of self-clinching:

- Reduction of loose hardware
- Installed permanently by simple pressing into properly sized mounting hole
- No embossing or secondary operations are necessary
- Panel can be pre-finished
- No weld issues or concerns

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