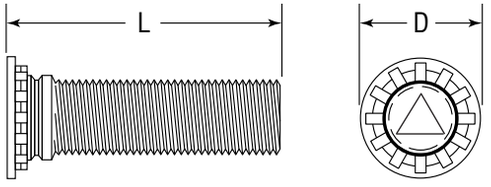
Self-Clinching Studs

Series CH, CHS & CHA

CH studs provide a strong flush-head assembly in material as thin as .040 in. (1.0 mm) with high torque-out and pushout performance.



Part Number Structure:

CH 256-4

- Length Code
- Thread Code
- Series

Series	Material	Finish
CH	Heat-treated Carbon Steel	Zinc* Clear
CHS	300 Series Stainless Steel	Passivated ASTM A380
CHA	2024-T4 Aluminum	None

*See Finish Spec. on Page 6.

Thread: External 2A, ANSI B1.1 (6g ANSI/ASME B1.13M).**

Use in: CH- Materials with HRB-80 or less.
CHS- Materials with HRB-70 or less.
CHA- Materials with HRB-50 or less.

**See Note 3 on Page 6 for Gauging Spec.

Dimensions & Specifications

	Thread Size	Thread Code	L Length ±.015 in. .250	.3125	.375	.500	.625	.750	.875	1.00	1.25	1.50	D ± .015	+.003 −.000	Max.†† Rec. Nut Tight. Torque in.-lbs.	Min.	Min.
INCH (in.)	#2-56	256	-4	-5	-6	-8	-10	-12†					.144	.085	2.5	.187	.040
	#4-40	440	-4	-5	-6	-8	-10	-12	-14	-16†			.176	.111	5	.219	.040
	#6-32	632	-4	-5	-6	-8	-10	-12	-14	-16	-20	-24†	.206	.137	10	.250	.040
	#8-32	832	-4	-5	-6	-8	-10	-12	-14	-16	-20	-24†	.237	.163	15	.281	.040
	#10-24	1024		-5†	-6	-8	-10	-12	-14	-16	-20	-24†	.256	.189	25	.281	.040
	#10-32	1032		-5†	-6	-8	-10	-12	-14	-16	-20	-24	.256	.189	30	.281	.040
	1/4-20	420			-6	-8	-10	-12	-14	-16	-20	-24	.337	.249	55	.312	.062
	5/16-18	518				-8	-10	-12	-14	-16	-20	-24	.376	.311	115	.375	.093

† Not stocked, available on special order.

†† For aluminum studs, values are 60% of those listed.

Dimensions & Specifications

	Thread Size	Thread Code	L Length ± .4 mm 6	8	10	12	15	18	20	22	25	28	30	35	38	D ± .4	+.08 −.00	Max.†† Rec. Nut Tight. Torque N•m	Min.	Min.
METRIC (mm)	M2.5x0.45	M2.5	-6†	-8†	-10†	-12†	-15†	-18†								4.1	2.5	.40	5.4	1.0
	M3x0.5	M3	-6†	-8	-10	-12	-15	-18	-20	-22	-25					4.6	3.0	.72	5.6	1.0
	M3.5x0.6	M3.5	-6	-8	-10	-12	-15	-18	-20	-22	-25	-28	-30			5.3	3.5	1.1	6.4	1.0
	M4x0.7	M4	-6†	-8	-10	-12	-15	-18	-20	-22	-25	-28	-30	-35	-38	5.9	4.0	1.6	7.2	1.0
	M5x0.8	M5		-8†	-10	-12	-15	-18	-20	-22	-25	-28	-30	-35	-38	6.5	5.0	3.4	7.2	1.0
	M6x1.0	M6			-10	-12	-15	-18	-20	-22	-25	-28	-30	-35	-38	8.2	6.0	5.7	7.9	1.6
	M8x1.25	M8				-12*	-15	-18	-20	-22	-25	-28	-30	-35	-38	9.6	8.0	14.0	9.6	2.4

Note: Studs are available in lengths up to 3 in. (76.2 mm) upon special order for 1/4-20/M6 and larger.

Continued on next page.

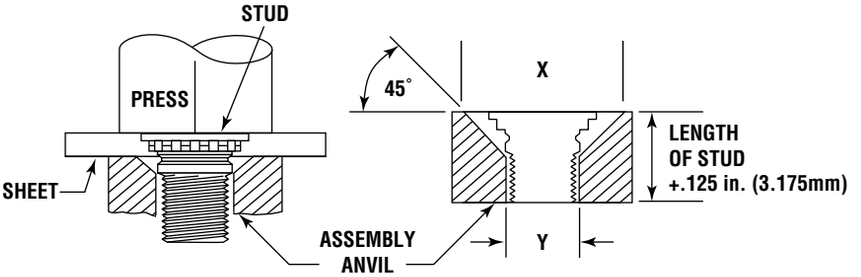
Self-Clinching Studs

Series CH, CHS & CHA

Continued from previous page.

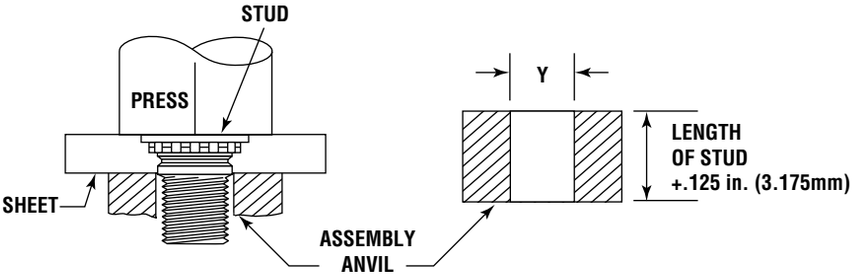
TOOLING

Note 1.
For material thickness of .059 in. or less, a countersunk hole is needed in the anvil.



Tooling for sheet thickness .059 in. (1.51mm) and less with #2 (M2.5) thru #10 (M5) thread sizes and less than .093 in. (2.3mm) for 1/4 in. (M6) threads.

Note 2.
For material thickness of .060 in. or more, a through-hole is needed in the anvil.



Tooling for sheet thickness .060 in. (1.51mm) minimum and greater with #2 (M2.5) thru #10 (M5) thread sizes and .092 in. (2.3mm) minimum and greater for 1/4 in. (M6) and 5/16 in. (M8) threads.

	Thread Code	Anvil Dimensions (in.) X +.004	Y +.003
INCH (in.)	256	.110	.087
		.114	.090
	440	.136	.113
		.140	.116
	632	.162	.139
		.166	.142
	832	.188	.165
		.192	.168
	1024	.216	.191
		.220	.194
	1032	.216	.191
		.220	.194
	420	.295	.250
		.300	.253
	518	—	.3125
		—	.3155

	Thread Code	Anvil Dimensions (mm) X +.1	Y +.08
METRIC (mm)	M2.5	3.1	2.50
	M3	3.6	3.00
	M3.5	4.1	3.50
	M4	4.6	4.00
	M5	5.6	5.00
	M6	6.6	6.00
	M8	—	8.00

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Continued from previous page.

Note: Values based on stainless steel studs (steel stud values may be higher).

Installation & Performance Data

	Thread Code	Sheet Thickness & Material	Installation Force (lbs.)	Pushout (lbs.)	Torque-out (in.-lbs.)
INCH (in.)	256	.062 Aluminum	2000	95	5
		.060 Steel	2500	175	5
	440	.064 Aluminum	3800	165	10
		.060 Steel	4300	270	10
	632	.064 Aluminum	3800	175	19
		.060 Steel	4700	295	19
	832	.064 Aluminum	4800	215	29
		.060 Steel	6800	370	39
	1024 1032	.064 Aluminum	5500	265	37
		.060 Steel	6800	445	59
	420	.093 Aluminum	6500	305	64
		.088 Steel	9500	570	95
	518	.093 Aluminum	6500	425	105
		.093 Steel	10000	645	170
	Thread Code	**Sheet Thickness & Material**	**Installation Force (kN)**	**Pushout (N)**	**Torque-out (N•m)**
METRIC (mm)	M2.5	1.6 Aluminum	8.9	465	.9
		1.5 Steel	11.1	740	.9
	M3	1.6 Aluminum	12.9	600	1.6
		1.5 Steel	14.7	820	1.6
	M3.5	1.6 Aluminum	15.6	800	1.6
		1.5 Steel	22.3	1335	2.7
	M4	1.6 Aluminum	20.0	975	2.8
		1.5 Steel	28.9	1780	4.1
	M5	1.6 Aluminum	24.5	1070	3.4
		1.5 Steel	33.4	1980	6.4
	M6	2.4 Aluminum	44.5	1660	7.2
		2.2 Steel	42.3	2560	11.2
	M8	2.4 Aluminum	29.8	1910	11.2
		2.2 Steel	44.5	2890	19.1