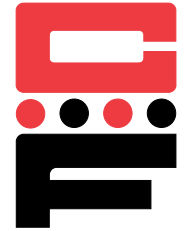
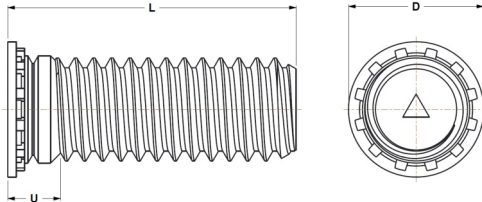


Self-Clinching Studs Flush Head



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



Series	Material	Finish
CH	Heat-treated Carbon Steel	Zinc* Clear
CHS	300 Series Stainless Steel	Passivated ASTM A967
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

INCH (in.)	Thread Size	Thread Code	L Length ± 0.015 in.										D ± 0.015	+0.003 -0.000	Max. Hole in Attached Part	Min.	Min.
			.250	.312	.375	.500	.625	.750	.875	1.00	1.25	1.50					
	#2-56	256	-4	-5	-6	-8	-10	-12 [†]					.144	.085	.105	.187	.040
	#4-40	440	-4	-5	-6	-8	-10	-12	-14	-16 [†]	-20		.176	.111	.135	.219	.040
	#6-32	632	-4	-5	-6	-8	-10	-12	-14	-16	-20	-24 [†]	.206	.137	.160	.250	.040
	#8-32	832	-4	-5	-6	-8	-10	-12	-14	-16	-20	-24 [†]	.237	.163	.185	.281	.040
	#10-24	1024		-5 [†]	-6	-8	-10	-12	-14	-16	-20	-24 [†]	.256	.189	.210	.281	.040
	#10-32	1032		-5 [†]	-6	-8	-10	-12	-14	-16	-20	-24	.256	.189	.210	.281	.040
	1/4-20	420			-6	-8	-10	-12	-14	-16	-20	-24	.337	.249	.270	.312	.062
	5/16-18	518				-8	-10	-12	-14	-16	-20	-24	.376	.311	.333	.375	.093

† Not stocked, available on special order.

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

Dimensions & Specifications

METRIC (mm)	Thread Size	Thread Code	L Length ± 0.4 mm												D ± 0.4	+0.08 -0.00	Max. Hole in Attached Part	Min.	Min.	
			6	8	10	12	15	18	20	22	25	28	30	35						38
	M2.5x0.45	M2.5	-6 [†]	-8 [†]	-10 [†]	-12 [†]	-15 [†]	-18 [†]							4.1	2.5	3.1	5.4	1.0	
	M3x0.5	M3	-6 [†]	-8	-10	-12	-15	-18	-20	-22	-25				4.6	3.0	3.6	5.6	1.0	
	M3.5x0.6	M3.5	-6	-8	-10	-12	-15	-18	-20	-22	-25	-28	-30		5.3	3.5	4.1	6.4	1.0	
	M4x0.7	M4	-6 [†]	-8	-10	-12	-15	-18	-20	-22	-25	-28	-30	-35	-38	5.9	4.0	4.6	7.2	1.0
	M5x0.8	M5		-8 [†]	-10	-12	-15	-18	-20	-22	-25	-28	-30	-35	-38	6.5	5.0	5.6	7.2	1.0
	M6x1.0	M6			-10	-12	-15	-18	-20	-22	-25	-28	-30	-35	-38	8.2	6.0	6.6	7.9	1.6
	M8x1.25	M8				-12 [†]	-15	-18	-20	-22	-25	-28	-30	-35	-38	9.6	8.0	8.6	9.6	2.4

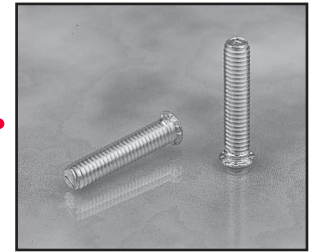
Note: Studs are available in lengths up to 3 in. (76.2 mm) upon special order for 1/4-20/M6 and larger.

Continued on next page.



Self-Clinching Studs Flush Head

Series CH, CHS & CHA

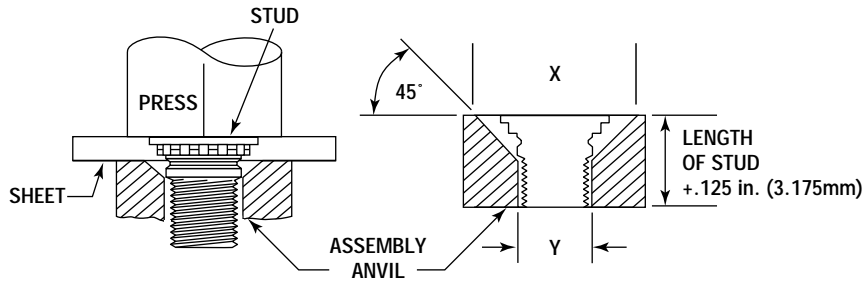


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TOOLING

Note 1.

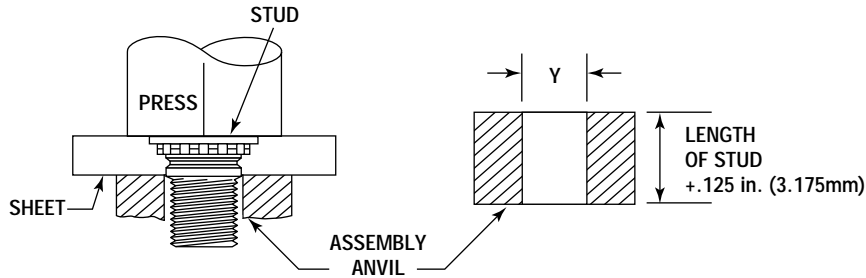
For material thickness of .059 in. or less, a countersunk hole is needed in the anvil.



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.

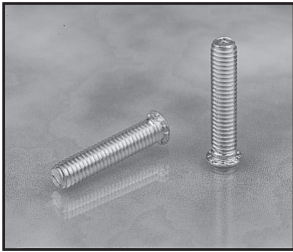


Tooling for sheet thickness .060 in. (1.51mm) minimum and greater with #2 (M2.5) thru #10 (M5) thread sizes and .092 in. (2.3mm) minimum and greater for 1/4 in. (M6) and 5/16 in. (M8) threads.

INCH (in.)	Thread Code	Anvil Dimensions (in.)	
		X +.004	Y +.003
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

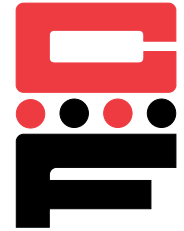
METRIC (mm)	Thread Code	Anvil Dimensions (mm)	
		X +.1	Y +.08
	M2.5	3.1	2.50
	M3	3.6	3.00
	M3.5	4.1	3.50
	M4	4.6	4.00
	M5	5.6	5.00
	M6	6.6	6.00
	M8	—	8.00

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



Self-Clinching Studs Flush Head






Series CH, CHS & CHA



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Installation & Performance Data

	Thread Code	SERIES	 Rec. Nut Tightening (in.-lbs)	 Sheet Thickness & Material	 Installation Force (lbs.)	 Pushout (lbs.)	 Torque out (in.-lbs.)	Pull Thru (lbs)
UNIFIED	256	CH	4.4	.064" ALUM	2000	100	5	425
		CHS	2.7	.064" ALUM	2000	100	4.5	300
		CH	4.4	.060" STEEL	2500	180	5	425
		CHS	2.7	.060" STEEL	2500	180	4.5	300
	440	CH	8.7	.064" ALUM	3800	170	10	650
		CHS	5.9	.064" ALUM	3200	170	8	500
		CH	8.7	.060" STEEL	4300	275	10	650
		CHS	5.9	.060" STEEL	4700	275	8	500
	632	CH	14	.064" ALUM	3800	180	17	850
		CHS	11	.064" ALUM	3500	180	16	775
		CH	14	.060" STEEL	4700	300	20	850
		CHS	11	.060" STEEL	5000	300	16	775
	832	CH	20	.064" ALUM	4800	220	28	1000
		CHS	16	.064" ALUM	4500	220	28	940
		CH	25	.060" STEEL	6800	375	40	1270
		CHS	19	.060" STEEL	5500	375	28	1130
	1024-1032	CH	28	.064" ALUM	5500	270	30	1220
		CHS	24	.064" ALUM	5500	270	30	1220
		CH	32	.060" STEEL	7500	450	60	1410
		CHS	28	.060" STEEL	6800	450	50	1410
	420	CH	69	.093" ALUM	6500	310	65	2300
		CHS	55	.093" ALUM	6500	310	65	2100
		CH	77	.088" STEEL	9500	575	100	2550
		CHS	67	.088" STEEL	10000	575	100	2550
518	CH	85	.093" ALUM	6500	430	100	2280	
	CHS	74	.093" ALUM	6700	430	100	2280	
	CH	130	.093" STEEL	10000	650	175	3475	
	CHS	102	.093" STEEL	11200	650	175	3120	

	Thread Code	SERIES	 Rec. Nut Tightening (N-m)	 Sheet Thickness & Material	 Installation Force (kN)	 Pushout (N)	 Torque out (N-m)	Pull Thru (N)
METRIC	M2.5	CH	0.78	1.6 mm ALUM	8.9	465	1.0	2600
		CHS	0.48	1.6 mm ALUM	11.6	465	0.8	1820
		CH	0.84	1.5 mm STEEL	11.1	740	1.0	2800
		CHS	0.48	1.5 mm STEEL	13.8	740	0.8	1820
	M3	CH	1.1	1.6 mm ALUM	12.9	600	1.7	3150
		CHS	0.81	1.6 mm ALUM	12.9	600	1.3	2570
		CH	1.4	1.5 mm STEEL	14.7	820	1.7	3840
		CHS	0.77	1.5 mm STEEL	14.7	820	1.3	2440
	M3.5	CH	1.6	1.6 mm ALUM	15.6	800	1.7	3780
		CHS	1.3	1.6 mm ALUM	15.6	800	1.7	3445
		CH	1.6	1.5 mm STEEL	22.3	1335	2.8	0.78
		CHS	1.3	1.5 mm STEEL	22.3	1335	2.0	3445
	M4	CH	2.1	1.6 mm ALUM	20	975	2.9	4448
		CHS	1.8	1.6 mm ALUM	22.3	975	2.9	4180
		CH	2.7	1.5 mm STEEL	28.9	1780	4.2	5650
		CHS	2	1.5 mm STEEL	26.7	1780	2.9	4775
	M5	CH	3.1	1.6 mm ALUM	24.5	1070	3.5	5170
		CHS	2.5	1.6 mm ALUM	24.5	1070	3.5	4760
		CH	3.8	1.5 mm STEEL	33.4	2000	6.5	6270
		CHS	3.2	1.5 mm STEEL	32.5	2000	6.3	6000
	M6	CH	7.3	2.4 mm ALUM	28.9	1660	7.3	10200
		CHS	5.7	2.4 mm ALUM	28.9	1660	7.3	9090
		CH	8.1	2.2 mm STEEL	44.5	2560	11.3	11300
		CHS	6.7	2.2 mm STEEL	44.5	2560	10.1	10600
M8	CH	10	2.4 mm ALUM	29.7	1910	11.3	10500	
	CHS	8	2.4 mm ALUM	29.8	1910	11.3	9540	
	CH	15	2.2 mm STEEL	44.5	2890	19.2	15450	
	CHS	11	2.2 mm STEEL	49.8	2890	17.5	13630	