



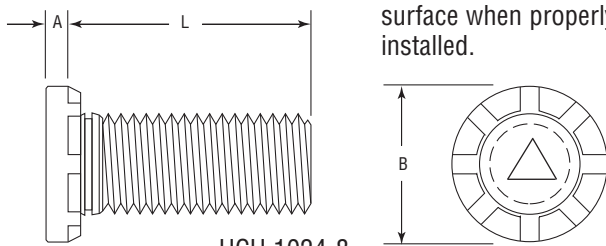
Self-Clinching Studs

Series HCH, HCHS & HCHB (High-Torque)

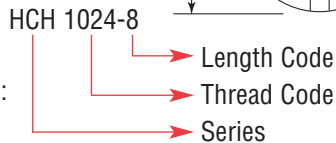


HCH high-torque studs offer advantages over weld studs and other fasteners. The heavy head configuration provides greater torque-out and improved pull-through resistance.

Phosphor Bronze studs provide excellent electrical conductivity and mechanical attachment in copper. The head of the stud will remain above the surface when properly installed.



Part Number Structure:



Series	Material	Finish
HCH	Heat-treated Medium Carbon Steel	Zinc* Clear
HCHS	300 Series Stainless Steel	Passivated ASTM A967
HCHB	Phosphor Bronze CDA-510	None

*See Finish Spec. on Page 6.

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

Use in: Cold-rolled Steel or 5052-H34 Aluminum with Rockwell Hardness as follows:

- HCH- Materials with HRB-85 or less.
- HCHS- Materials with HRB-70 or less.
- HCHB- Materials with HRB-55 or less.

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

Dimensions & Specifications

INCH (in.)	Thread Size	Thread Code	L Length $\pm .015$ in.							Min.	+.005 -.000	Max. Hole in Attach. Parts	A Max.	B $\pm .01$	Min.
			.500	.750	1.00	1.25	1.50	1.75							
	#10-24	1024	-8	-12	-16	-20	-24	-28	.050	.190	.252	.040	.300	.415	
	#10-32	1032	-8	-12	-16	-20	-24	-28 [†]	.050	.190	.252	.040	.300	.415	
	1/4-20	420	-8	-12	-16	-20	-24	-28 [†]	.060	.250	.312	.050	.380	.460	
	5/16-18	518	-8 [†]	-12	-16	-20	-24	-28 [†]	.075	.312	.374	.070	.480	.500	
	3/8-16	616		-12	-16	-20	-24	-28 [†]	.090	.375	.437	.085	.580	.530	

Thread Strength: HCH = 120 ksi / HCHS = 75 ksi / HCHB = 60 ksi.

[†] Not stocked, available on special order.

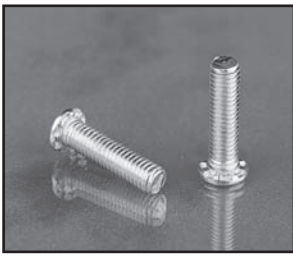
Dimensions & Specifications

METRIC (mm)	Thread Size	Thread Code	L Length $\pm .4$ mm							Min.	+.13 -.00	Max. Hole in Attach. Parts	A Max.	B $\pm .25$	Min.
			20	25	30	35	40	50							
	M5x0.8	M5	-20	-25	-30	-35	-40	-50	1.3	5.0	6.4	1.14	7.8	10.7	
	M6x1.0	M6	-20	-25	-30	-35	-40	-50	1.5	6.0	7.5	1.27	9.4	11.5	
	M8x1.25	M8	-20	-25	-30	-35	-40	-50	2.0	8.0	9.5	1.78	12.5	12.7	
	M10x1.5	M10	-20	-25	-30	-35	-40	-50	2.3	10.0	11.5	2.29	15.7	13.7	

Thread Strength: HCH = 900 MPa / HCHS = 515 MPa / HCHB = 415 MPa.

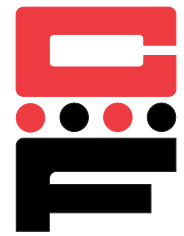
Note: Studs are available in lengths up to 3 in. (76.2 mm) upon special order for 1/4-20/M6 and larger.









Self-Clinching Studs

Series HCH, HCHS & HCHB (High-Torque)



Continued from previous page.

Installation & Performance Data

	Thread Code	Series	 Sheet Thickness & Material	Sheet Hardness HRB	 Installation Force (lbs.)	 Pushout (lbs.)	 Torque-out (ft.-lbs.)	Max. Nut Tightening Torque (ft.-lbs.)
INCH (in.)	1024 1032	HCH	.060 Aluminum	15	3000	180	4	3.25
		HCH	.060 Steel	65	6000	375	5	3.25
		HCHS	.050 Aluminum	38	3000	180	4	3.25
		HCHS	.058 Aluminum	52	4500	325	4	3.25
		HCHB	.061 Copper CDA-110	28	3400	150	2.9	2.56
	420	HCH	.060 Aluminum	43	5500	285	11	8
		HCH	.060 Steel	59	7000	480	11	8
		HCHS	.064 Aluminum	32	4000	285	8	8
		HCHS	.072 Aluminum	43	6500	480	8	8
		HCHB	.061 Copper CDA-110	28	6000	380	5	4.35
	518	HCH	.091 Aluminum	39	8000	380	22	16
		HCH	.090 Steel	58	10000	590	22	16
		HCHS	.087 Aluminum	41	5500	380	15	16
		HCHS	.099 Steel	44	7500	590	15	16
		HCHB	.126 Copper CDA-110	32	7500	500	11	10.55
	616	HCH	.091 Aluminum	39	12000	550	25	27
		HCH	.090 Steel	58	18000	780	36	27
		HCHS	.123 Aluminum	44	10000	560	25	27
		HCHS	.099 Steel	44	13000	780	25	27
		HCHB	.126 Copper CDA-110	32	12000	560	18	21
METRIC (mm)	Thread Code	Series	Sheet Thickness & Material	Sheet Hardness HRB	Installation Force (kN)	Pushout (N)	Torque-out (N • m)	Max. Nut Tightening Torque (N • m)
	M5	HCH	1.5 Aluminum	15	13	800	5.4	4.4
		HCH	1.5 Steel	65	26	1500	7.6	4.4
		HCHS	1.62 Aluminum	35	12.4	800	5.4	4.4
		HCHS	1.47 Aluminum	54	21.7	1500	6.4	4.4
		HCHB	1.5 Copper CDA-110	28	15.6	1115	3.4	3.47
	M6	HCH	1.5 Aluminum	43	29	1270	14	10
		HCH	1.5 Steel	59	33	1750	14	10
		HCHS	1.62 Aluminum	35	15.4	1270	11	10
		HCHS	1.6 Aluminum	45	24.6	1750	11	10
		HCHB	1.5 Copper CDA-110	28	25.3	1600	6.7	5.9
	M8	HCH	2.3 Aluminum	39	35.6	1700	30	21.7
		HCH	2.3 Steel	58	44.5	2200	30	21.7
		HCHS	2.23 Aluminum	44	24.4	1700	20	21.7
		HCHS	2.48 Steel	43	37.8	2100	20	21.7
		HCHB	3.2 Copper CDA-110	32	33	2250	15.3	14.3
	M10	HCH	2.3 Aluminum	39	53.3	2445	36	36.6
		HCH	2.3 Steel	58	80	3470	49	36.6
		HCHS	2.3 Aluminum	44	44.4	2445	36	36.6
		HCHS	2.3 Steel	44	57.7	3470	36	36.6
HCHB		3.2 Copper CDA-110	32	53.3	2500	25	28.5	

