



## CD STUD WELDING MATERIAL CAPABILITIES

BASE MATERIAL	STUD MATERIAL			
	MILD STEEL; 1010 - 1030	STAINLESS STEEL 302/304/305	ALUMINUM 1100/5086/6061	BRASS 70-30/65-35
MILD STEEL: 1006-1030	EXCELLENT	EXCELLENT	NA	EXCELLENT
MEDIUM CARBON STEEL: 1030-1050	GOOD	GOOD	NA	GOOD
GALVANIZED SHEET DUCT OR DECKING	EXCELLENT	EXCELLENT	NA	NA
STRUCTURAL STEEL	EXCELLENT	EXCELLENT	NA	EXCELLENT
STAINLESS STEEL: 405,410,430, AND 300 SERIES (EXCL. 303)	EXCELLENT	EXCELLENT	NA	EXCELLENT
LEAD-FREE BRASS, ELECTROLYTIC COPPER, LEAD-FREE ROLLED COPPER	EXCELLENT	EXCELLENT	NA	EXCELLENT
MOST ALUMINUM ALLOYS OF THE 1000,3000,5000, AND 6000 SERIES 1	NA	NA	EXCELLENT	NA
DIE-CAST ZINC ALLOYS	GOOD	GOOD	EXCELLENT	GOOD

1) OTHER MATERIALS, SUCH AS 7000 SERIES ALUMINUM, TITANIUM ALLOYS, INCONEL, ETC. CAN BE WELDED UNDER SPECIFIED CONDITIONS.  
2) GOOD – GENERALLY FULL STRENGTH RESULTS, DEPENDING ON THE COMBINATION OF STUD SIZE AND BASE METAL.

## STANDARD LOAD CAPACITIES

STUD MATERIAL	STUD SIZE	MAX. FASTENING TORQUE (INCH/LBS.)	ULTIMATE TENSILE LOAD (LBS.)	MAX. SHEAR LOAD (LBS.)
LOW-CARBON COPPER FLASHED STEEL	6-32	6.0	500	375
	8-32	12.0	765	575
	10-24	14.0	960	720
	1/4-20	43.0	1,750	1,300
	5/16-18	72.0	2,900	2,200
	3/8-16	106.0	4,300	3,250
STAINLES STEEL: 304	6-32	10.0	790	590
	8-32	20.0	1,260	940
	10-24	23.0	1,530	1,150
	1/4-20	75.0	2,880	2,160
	5/16-18	126.0	3,750	5,350
	3/8-16	186.0	4,850	7,150
ALUMINUM ALLOY: 1100	6-32	2.5	200	125
	8-32	5.0	295	185
	10-24	6.5	380	235
	1/4-20	21.5	670	415
	5/16-18	36.0	1,125	695
	3/8-16	53.0	1,660	1,000
ALUMINUM ALLOY: 5086	6-32	3.5	375	235
	8-32	7.5	585	365
	10-24	10.0	735	460
	1/4-20	32.5	1,360	850
	5/16-18	54.5	2,300	1,400
	3/8-16	81.0	3,400	2,100
BRASS: 70-30, 65-35	6-32	8.0	600	390
	8-32	16.0	860	560
	10-24	18.5	1,040	680
	1/4-20	61.0	1,950	1,275
	5/16-18	102.0	3,280	2,140
	3/8-16	150.0	4,800	3,160

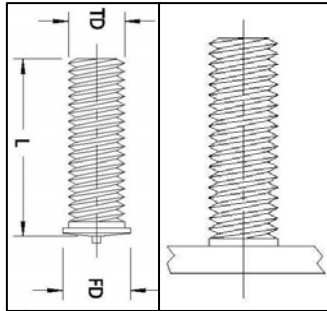
\*MAXIMUM FASTENING TORQUE SHOULD DEVELOP FASTENER TENSION TO SLIGHTLY LESS THAN YIELD POINT.



# TRU-WELD Stud Welding

## TYPE CD STUD

FULLY THREADED CAPACITOR DISCHARGE STUD – FLANGED  
NO FERRULE NEEDED



WELD STUD SPECIFICATIONS			
TD Diameter and Thread Pitch	L Min. Length before weld	TRU-WELD Part Number	FD Flange Diameter
#4-40	.250	CDEC-004-541	.187
#6-32	.250	CDGC-004-541	.218
#8-32	.250	CDIC-004-541	.250
#10-32	.250	CDKF-004-541	.250
#10-24	.250	CDKC-004-541	.250
1/4-20	.375	CD04-006-541	.312
5/16-18	.500	CD05-008-541	.375
3/8-16	.500	CD06-008-541	.437
CD STUDS ARE AVAILABLE IN VARIOUS LENGTHS, DIAMETERS, AND MATERIALS (TOO MANY TO LIST HERE)			

### PART NUMBERING CODES (CD STUDS)

PREFIX (1<sup>ST</sup> FOUR DIGITS OR CHARACTERS)

CDEC = #4      CDKC = #10  
CDGC = #6      CD04 = 1/4  
CDIC = #8      CD05 = 5/16

SUFFIX (LAST THREE DIGITS)

FLANGE/NON-FLANGE (5 OR 6)  
TIP/NO TIP (4 OR 0)  
MATERIAL (1, 2, 3)  
1 – MILD STEEL  
2 – STAINLESS STEEL  
3 – ALUMINUM

### MATERIAL

MILD STEEL, STAINLESS STEEL, ALUMINUM, BRASS

### PLATING

ALL MILD STEEL STUDS ARE COPPER PLATING (NICKEL PLATING AVAILABLE UPON REQUEST)

### ANNEALING

ALL STUDS ARE ANNEALED WHERE REQUIRED

ESTIMATED WEIGHTS OF THREADED CD STUDS IN POUNDS PER 1000 PIECES						
LENGTH	#4-40	#6-32	#8-32	#10-24	1/4-20	5/16-18
1/4	.69	1.00	1.39	1.79	3.08	4.90
3/8	.94	1.38	1.93	2.50	4.37	6.98
1/2	1.18	1.76	2.49	3.21	5.66	9.06
5/8	1.43	2.13	3.04	3.93	6.95	11.13
3/4	1.67	2.51	3.60	4.64	8.24	13.21
7/8	1.92	2.89	4.15	5.35	9.52	15.29
1	2.16	3.26	4.71	6.07	10.81	17.36
1-1/4	2.65	4.02	5.82	7.50	13.39	21.52
1-1/2	3.15	4.77	6.93	8.92	15.96	25.67
1-3/4	3.64	5.52	8.04	10.35	18.54	29.83

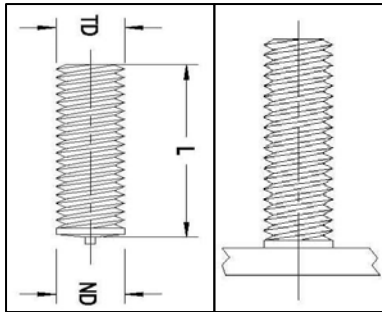
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## TYPE CD STUD

FULLY THREADED CAPACITOR DISCHARGE STUD – NON-FLANGED  
NO FERRULE NEEDED

WELD STUD SPECIFICATIONS			
TD Diameter and Thread Pitch	L Min. Length before weld	TRU-WELD Part Number	ND Nominal Diameter
#4-40	.250	CDEC-004-641	.112
#6-32	.250	CDGC-004-641	.138
#8-32	.250	CDIC-004-641	.164
#10-32	.250	CDKF-004-641	.190
#10-24	.250	CDKC-004-641	.190
1/4-20	.375	CD04-006-641	.250
5/16-18	.500	CD05-008-641	.312
3/8-16	.500	CD06-008-641	.375
CD STUDS ARE AVAILABLE IN VARIOUS LENGTHS, DIAMETERS, AND MATERIALS (TOO MANY TO LIST HERE)			

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 CDIC = #8      CD05 = 5/16

SUFFIX (LAST THREE DIGITS)

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MATERIAL (1, 2, 3)  
 1 – MILD STEEL  
 2 – STAINLESS STEEL  
 3 – ALUMINUM

### MATERIAL

MILD STEEL, STAINLESS STEEL, ALUMINUM, BRASS

### PLATING

ALL MILD STEEL STUDS ARE COPPER PLATING (NICKEL PLATING AVAILABLE UPON REQUEST)

### ANNEALING

ALL STUDS ARE ANNEALED WHERE REQUIRED

ESTIMATED WEIGHTS OF THREADED CD STUDS IN POUNDS PER 1000 PIECES						
LENGTH	#4-40	#6-32	#8-32	#10-24	1/4-20	5/16-18
1/4	.69	1.00	1.39	1.79	3.08	4.90
3/8	.94	1.38	1.93	2.50	4.37	6.98
1/2	1.18	1.76	2.49	3.21	5.66	9.06
5/8	1.43	2.13	3.04	3.93	6.95	11.13
3/4	1.67	2.51	3.60	4.64	8.24	13.21
7/8	1.92	2.89	4.15	5.35	9.52	15.29
1	2.16	3.26	4.71	6.07	10.81	17.36
1-1/4	2.65	4.02	5.82	7.50	13.39	21.52
1-1/2	3.15	4.77	6.93	8.92	15.96	25.67
1-3/4	3.64	5.52	8.04	10.35	18.54	29.83

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# TRU-WELD Stud Welding

## Estimated Weights for Threaded CD Studs In Pounds Per 1000 Pieces

Length	4-40	6-32	8-32	10-24	1/4-20	5/16-18
1/4	.69	1.00	1.39	1.79	3.08	4.90
3/8	.94	1.38	1.93	2.50	4.37	6.98
1/2	1.18	1.76	2.49	3.21	5.66	9.06
5/8	1.43	2.13	3.04	3.93	6.95	11.13
3/4	1.67	2.51	3.60	4.64	8.24	13.21
7/8	1.92	2.89	4.15	5.35	9.52	15.29
1	2.16	3.26	4.71	6.07	10.81	17.36
1-1/4	2.65	4.02	5.82	7.50	13.39	21.51
1-1/2	3.15	4.77	6.93	8.92	15.96	25.67
1-3/4	3.64	5.52	8.04	10.35	18.54	29.83
2	4.13	6.27	9.15	11.78	21.12	33.98
2-1/4	4.62	7.03	10.26	13.21	23.69	38.14
2-1/2	5.11	7.78	11.37	14.63	26.27	42.29

## Estimated Weights of No Thread CD Studs in Pounds Per 1000 Pieces

Length	3/32	1/8	5/32	3/16	1/4	5/16
1/4	.68	1.06	1.59	2.24	3.87	5.97
3/8	.92	1.50	2.27	3.21	5.61	8.68
1/2	1.16	1.93	2.94	4.19	7.35	11.39
5/8	1.40	2.37	3.62	5.16	9.09	14.11
3/4	1.64	2.80	4.30	6.14	10.84	16.82
7/8	1.88	3.24	4.98	7.12	12.56	19.53
1	2.12	3.67	5.65	8.09	14.32	22.25
1-1/4	2.60	4.54	7.01	10.04	17.81	27.67
1-1/2	3.08	5.41	8.36	11.99	21.69	33.10
1-3/4	3.56	6.28	9.72	13.95	24.78	38.52
2	4.04	7.15	11.07	15.90	28.25	43.95
2-1/4	4.52	8.02	12.43	17.85	31.75	49.37
2-1/2	5.00	8.89	13.78	19.80	35.23	54.80