

Resistance Spot Welding Guidelines

Single Sheet Thickness mm	Electrode Tip Dia mm	Electrode Force Kgf					Weld Time 50 Hz					Weld Current K Amps					Single Sheet Thickness mm	Min Slug Dia mm
		Uncoated Mild Steel		Coated Mild Steel			Uncoated Mild Steel		Coated Mild Steel			Uncoated Mild Steel		Coated Mild Steel				
		Medium Force Setting	High Force Setting	Hot Dip Zinc	E Z	I Z & Zinc Nickel	Medium Force Setting	High Force Setting	Hot Dip Zinc	E Z	I Z & Zinc Nickel	Medium Force Setting	High Force Setting	Hot Dip Zinc	E Z	I Z & Zinc Nickel		
0.4 - 0.6	4 from	90	133	150	150	140	5	4	6	6	4	4	5	7	6	6		
	to	115	183	204	204	196	7	5	8	8	6	6	8	9	8	8.5		
0.6 - 0.8	4 from	125	175	194	194	183	7	6	8	8	6	5	6	8	7	7	0.6	3.9
	to	133	204	224	224	224	10	8	10	10	8	7	9	10	9	9.5	0.7	4.2
0.8 - 1.0	5 from	140	194	224	224	214	9	7	9	9	7	6	7	9	8	8	0.8	4.5
	to	150	265	296	296	285	12	10	12	12	10	8	10	11	10	10.5	0.9	4.7
1.0 - 1.2	5 from	163	255	285	285	275	11	8	10	10	8	7	8	10	9	9	1.0	5.5
	to	183	326	367	367	347	15	12	13	13	12	9	12	13	13	12	1.1	5.5
1.2 - 1.6	6 from	194	306	347	347	326	14	9	11	11	9	8	10	14	12	11	1.2	5.5
	to	214	408	459	459	438	18	13	15	15	13	11	13	16	15	14	1.4	5.9
1.6 - 2.0	7 from	265	398	449	449	428	18	10	12	12	10	9	12	18	14	13	1.6	6.3
	to	296	527	561	561	540	22	14	16	16	14	13	15	21	17	16.5	1.8	6.7
2.0 - 2.5	8 from	347	510	550	550	530	22	12	14	14	12	10	14	22	17	16	2.0	7.1
	to	377	632	693	693	663	28	16	18	18	16	15	18	26	22	21	2.2	7.4
2.5 - 3.0	9 from	449	612	673	673	652	28	15	17	17	15	12	17	26	19	18	2.5	7.9
	to	479	765	815	815	795	35	20	21	21	20	17	20	30	24	23	3.0	8.6

Taken from British Standards BS 1140 : 1993 Resistance spot welding of uncoated & coated low carbon steel.

IMPORTANT: These are recommendations only, settings must take account of actual conditions and be verified using a destruct test.

NOTES: When welding sheets of dissimilar thickness, welding conditions may be based on the thinner sheet or the second thinnest sheet on three thicknesses.

Welding Conditions For Square Weld Nuts

Thread Size	Sheet Thickness mm	Electrode Force kN	Weld Time Cycles	Current KA	Min Torsional Load Test Nm
M4	1.0 - 2.0	2.9 - 3.1	5	7.5 - 8.0	6
M5	1.0 - 2.0	3.6 - 3.8	5	9.0 - 9.5	12
M6	1.0 - 2.0	4.2 - 4.5	6	10.5 - 11.0	20
M8	1.0 - 2.0	4.9 - 5.1	9	17.0 - 18.0	50
M10	2.0	6.0 - 6.5	10	21.0 - 22.0	100
M12	2.0	7.1 - 7.4	12	24.0 - 25.0	180



Welding Conditions For Weld Bolts

Bolt Size	Sheet Thickness mm	Electrode Force kN	Weld Time Cycles	Current KA	Min Torsional Load Test Nm
M5	1.0 - 2.0	2.7	12	8.0	6
M6	1.5 - 2.5	3.5	14	8.5	10
M8	1.5 - 2.5	3.5	15	9.5	23
M10	2.0 - 3.0	4.5	16	11.0	40

