

APPLICATION DATA SHEET

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SCHEDULE FOR SPOT WELDING STAINLESS STEEL

THICKNESS "T" OF THINNEST OUTSIDE PIECE (See Notes 1, 2, 3 and 4 Below)	ELECTRODE DIAMETER AND SHAPE (See Note 5)		ELECTRODE FORCE LB.	WELD TIME CYCLES (60 Per Sec.)	WELDING CURRENT (Approx.) AMPS		MINIMUM CONTACTING OVERLAP 	MINIMUM WELD SPACING (See Note 6 Below) ϕ to ϕ	DIAMETER OF FUSED ZONE IN. Approx.	MINIMUM SHEAR STRENGTH LB.		
	D, IN., Min.	d, IN., Max.			Tensile Strength Below 150000 Psi	Tensile Strength 150000 Psi and Higher				Ultimate Tensile Strength of Metal		
										70000 Up to 90000 Psi	90000 Up to 150000 Psi	150000 Psi and Higher
0.006	3/16	3/32	180	2	2000	2000	3/16	3/16	0.045	60	70	85
0.008	3/16	3/32	200	3	2000	2000	3/16	3/16	0.065	150	170	210
0.012	1/4	1/8	260	3	2100	2000	1/4	1/4	0.076	185	210	250
0.014	1/4	1/8	300	4	2500	2200	1/4	1/4	0.082	240	250	320
0.016	1/4	1/8	330	4	3000	2500	1/4	5/16	0.088	280	300	380
0.018	1/4	1/8	380	4	3500	2800	1/4	5/16	0.093	320	360	470
0.021	1/4	5/32	400	4	4000	3200	5/16	5/16	0.100	370	470	500
0.025	3/8	5/32	520	5	5000	4100	3/8	7/16	0.120	500	600	680
0.031	3/8	3/16	650	5	6000	4800	3/8	1/2	0.130	680	800	930
0.034	3/8	3/16	750	6	7000	5500	7/16	9/16	0.150	800	920	1100
0.040	3/8	3/16	900	6	7800	6300	7/16	5/8	0.160	1000	1270	1400
0.044	3/8	3/16	1000	8	8700	7000	7/16	11/16	0.180	1200	1450	1700
0.050	1/2	1/4	1200	8	9500	7500	1/2	3/4	0.190	1450	1700	2000
0.056	1/2	1/4	1350	10	10300	8300	9/16	7/8	0.210	1700	2000	2450
0.062	1/2	1/4	1500	10	11000	9000	5/8	1	0.220	1950	22400	2900
0.070	5/8	1/4	1700	12	12300	10000	5/8	1 1/8	0.250	2400	2800	3550
0.078	5/8	5/16	1900	14	14000	11000	11/16	1 1/4	0.275	2700	3400	4000
0.094	5/8	5/16	2400	16	15700	12700	3/4	1 1/2	0.290	3550	4200	5300
0.109	3/4	3/8	2800	18	17700	14000	13/16	1 1/2	0.290	4200	5000	6400
0.125	3/4	3/8	3300	20	18000	15500	7/8	2	0.300	5000	6000	7600

NOTES:

- Types of Steel—301, 302, 303, 304, 308, 309, 310, 316, 317, 321, 347 and 349
- Material should be free from scale, oxides, paint, grease and oil.
- Welding conditions determined by thickness of thinnest outside piece "T."
- Data for total thickness of pile-up not exceeding 4 "T". Maximum ratio between two thicknesses 3 to 1.

- Electrode Material, CMW® 3, CMW® 100, or ELKONITE® 10W3
- Minimum weld spacing is that spacing for two pieces for which no special precautions need be taken to compensate for shunted current effect of adjacent welds. For three pieces increase spacing 30 per cent.

SCHEDULE FOR SEAM WELDING STAINLESS STEEL

THICKNESS "T" OF THINNEST OUTSIDE PIECE (See Notes 1, 2, 3 and 4 Below)	ELECTRODE WIDTH AND SHAPE (See Note 5 Below) 	ELECTRODE FORCE LB.	ON TIME CYCLES (60 Per Sec.)	OFF TIME FOR MAXIMUM SPEED (Pressure-Tight) CYCLES		MAXIMUM WELD SPEED IN. PER MINUTE		WELDS PER INCH		WELDING CURRENT (Approx.) AMPS.	MINIMUM CONTACTING OVERLAP (See Note 6 Below) 			
				W, IN., Min.	2 "T"	4 "T"	2 "T"	4 "T"	2 "T"			4 "T"		
													2 "T"	4 "T"
0.006	3/16	300	2	1	1	60	67	20	18	4000	1/4			
0.008	3/16	350	2	2	2	67	56	18	16	4600	1/4			
0.010	3/16	400	3	2	2	45	51	16	14	5000	1/4			
0.012	1/4	450	3	2	2	48	55	15	13	5600	5/16			
0.014	1/4	500	3	2	3	51	46	14	13	6200	5/16			
0.016	1/4	600	3	2	3	51	50	14	12	6700	5/16			
0.018	1/4	650	3	2	3	55	50	13	12	7300	5/16			
0.021	1/4	700	3	2	3	55	55	13	11	7900	3/8			
0.025	3/8	850	3	3	4	50	47	12	11	9200	7/16			
0.031	3/8	1000	3	3	4	50	47	12	11	10600	7/16			
0.040	3/8	1300	3	4	5	47	45	11	10	13000	1/2			
0.050	1/2	1600	4	4	5	45	44	10	9	14200	5/8			
0.062	1/2	1850	4	5	7	40	41	10	8	15100	5/8			
0.070	5/8	2150	4	5	7	44	41	9	8	15900	11/16			
0.078	5/8	2300	4	6	7	40	41	9	8	16500	11/16			
0.094	5/8	2550	5	6	7	36	38	9	8	16600	3/4			
0.109	3/4	2950	5	7	9	38	37	8	7	16800	13/16			
0.125	3/4	3300	6	6	8	38	37	8	7	17000	7/8			

NOTES:

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- Material should be free from scale, oxides, paint, grease and oil.
- Welding conditions determined by thickness of thinnest outside piece "T."
- Data for total thickness of pile-up not exceeding 4 "T". Maximum ratio between two thicknesses 3 to 1.

- Electrode material, CMW® 100
- For large assemblies minimum contacting overlap indicated should be increased 30 per cent.

From American Welding Society "Recommended Practices for Resistance Welding"