

Appendix I Welding parameter list

- Generally, welding current is adequate to welding electrode according with as following.

Electrode specification	φ2.5	φ3.2	φ4.0	φ5.0
Welding current	70-100A	110-140A	170-220A	230-280A

- Welding variables when use MIG welding

The values listed in the following table are the general specification values under standard condition.

		Plate thickness (mm)	Wire diameter (mm)	Interval (mm)	Current (A)	Voltage (V)	Welding speed (cm/min)	Wire extension (mm)	Gas flow rate (L/min)	
I Square butt welding	Low welding speed	0.8	0.8,0.9	0	60~70	16~16.5	50~60	10	10	
		1.0	0.8,0.9	0	75~85	17~17.5	50~60	10	10~15	
		1.2	0.8,0.9	0	80~90	16~16.5	50~60	10	10~15	
		1.6	0.8,0.9	0	95~105	17~18	45~50	10	10~15	
		2.0	1.0,1.2	0~0.5	110~120	18~19	45~50	10	10~15	
		2.3	1.0,1.2	0.5~1.0	120~130	19~19.5	45~50	10	10~15	
		3.2	1.0,1.2	1.0~1.2	140~150	20~21	45~50	10~15	10~15	
			1.2	1.2~1.6	220~260	24~26	45~50	15	15~20	
			1.2	1.2~1.6	220~260	24~26	45~50	15	15~20	
			1.2	1.2~1.6	300~340	32~34	45~50	15	15~20	
			1.2	1.2~1.6	300~340	32~34	45~50	15	15~20	
		High welding speed	0.8	0.8,0.9	0	100	17	130	10	15
	1.0		0.8,0.9	0	110	17.5	130	10	15	
	1.2		0.8,0.9	0	120	18.5	130	10	15	
1.6	1.0,1.2		0	180	19.5	130	10	15		
2.0	1.0,1.2		0	200	21	100	15	15		
2.3	1.0,1.2		0	220	23	120	15	20		
3.2	1.2		0	260	26	120	15	20		

		Plate thickness (mm)	Wire diameter (mm)	Current (A)	Voltage (V)	Welding speed (cm/min)	Wire extension (mm)	Gas flow rate (L/min)
Filllet butt welding		1.6	0.8,0.9	60~80	16~17	40~50	10	10
		2.3	0.8,0.9	80~100	19~20	40~55	10	10~15
		3.2	1.0,1.2	120~160	20~22	35~45	10~15	10~15

	4.5	1.0,1.2	150~180	21~23	30~40	10~15	20~25
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		Plate thickness (mm)	Wire diameter (mm)	Welding gun vertical angle(°)	Current (A)	Voltage (V)	Welding speed (cm/min)	Wire extension (mm)	Gas flow rate (L/min)
Horizontal fillet butt welding T joint	Low welding speed	1.0	0.8,0.9	45 ⁰	70~80	17~18	50~60	10	10~15
		1.2	0.9,1.0	45 ⁰	85~90	18~19	50~60	10	10~15
		1.6	1.0,1.2	45 ⁰	100~110	19~20	50~60	10	10~15
		2	1.0,1.2	45 ⁰	115~125	19~20	50~60	10	10~15
		2.3	1.0,1.2	45 ⁰	130~140	20~21	50~60	10	10~15
		3.2	1.0,1.2	45 ⁰	150~170	21~22	45~50	15	15~20
		4.5	1.0,1.2	45 ⁰	140~200	22~24	45~50	15	15~20
		6	1.2	45 ⁰	230~260	24~27	45~50	20	15~20
		8.9	1.2,1.6	50 ⁰	270~380	29~35	45~50	25	20~25
	12	1.2,1.6	50 ⁰	400	32~36	35~40	25	20~25	
	High welding speed	1.0	0.8,0.9	45 ⁰	140	19~20	160	10	15
		1.2	0.8,0.9	45 ⁰	130~150	19~20	120	10	15
		1.6	1.0,1.2	45 ⁰	180	22~23	120	10	15~20
		2	1.2	45 ⁰	210	24	120	15	20
		2.3	1.2	45 ⁰	230	25	110	20	25
		3.2	1.2	45 ⁰	270	27	110	20	25
4.5		1.2	50 ⁰	290	30	80	20	25	
6	1.2	50 ⁰	310	33	70	25	25		

		Plate thickness (mm)	Wire diameter (mm)	Welding gun vertical angle(°)	Current (A)	Voltage (V)	Welding speed (cm/min)	Wire extension (mm)	Gas flow rate (L/min)
Horizontal fillet welding joint	Low welding speed	0.8	0.8,0.9	10 ⁰	60~70	16~17	40~45	10	10~15
		1.2	0.8,0.9	30 ⁰	80~90	18~19	45~50	10	10~15
		1.6	0.8,0.9	30 ⁰	90~100	19~20	45~50	10	10~15
		2.3	0.8,0.9	47 ⁰	100~130	20~21	45~50	10	10~15
			1.0,1.2	47 ⁰	120~150	20~21	45~50	10	10~15
		3.2	1.0,1.2	47 ⁰	150~180	20~22	35~45	10~15	20~25
	4.5	1.2	47 ⁰	200~250	24~26	45~50	10~15	20~25	
	High welding speed	2.3~3.2	1.2	47 ⁰	220	24	150	15	15
				47 ⁰	300	26	250	15	15