



Weld Mold Company

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WELDING PARAMETERS GUIDELINE

GTAW (Gas Tungsten Arc Welding) Aka Tig

Check with Weld Mold technician for gas requirement.

<u>Tungsten dia.</u>	<u>Amperage</u>	<u>Shielding Gas</u>
0.062"	15-75	100%Argon
0.093"	70-150	
0.125"	175-325	

For aluminum welding a Helium/Argon mix may be beneficial.

Plate thickness:

	3/64	5/64	1/8	5/32	13/64	15/64	9/32	5/16	11/32	25/64	7/16	15/32
Steel	50	85	120	150	180	210	235	265	285	305	325	340
Stainless	40	180	120	160	195	225	255	280	310	330	350	370

GMAW (Gas Metal Arc Welding), Aka MIG

Check with Weld Mold technician for gas requirement.

- **Spray Transfer**

<u>Wire Size</u>	<u>Volts</u>	<u>Amps</u>
.035"	26-32	175-240
.045"	28-33	225-350
1/16"	28-33	240-400
3/32"	30-35	275-500

- **Short Circuit**

<u>Wire Size</u>	<u>Volts</u>	<u>Amperage</u>
.035"	19-21	90-120
.045"	20-22	110-140
.062	22-24	165-200

FCAW (Flux Cored Arc Welding)

Check with Weld Mold technician for gas requirement

<u>Wire Size</u>	<u>Volts</u>	<u>Amps</u>
.045"	20-26	125-250
1/16"	23-29	200-325
3/32"	30-36	450-700
1/8"	36-41	650-1000

SMAW (Shielded Metal Arc Welding), Aka Stick

Most electrodes are operated on DC+ polarity. Check with Weld Mold technician for correct polarity.

<u>Electrode Dia.</u>	<u>Amps</u>
3/32"	50-90
1/8"	70-125
5/32"	100-175
3/16"	150-225
1/4"	250-300
3/8"	450-600
1/2"	800-950
5/8"	800-1500
3/4"	1200-2100

Welding Polarity

Weld Mold products may operate on a variety of current types and polarities depending on the type of filler, base metal or welding method. Generally speaking, covered electrode (stick) welding products and spooled welding products (FCAW, MCAW, MIG) will operate on DC+ for best results.

DC + (Reverse or DCEP) the electrode is attached to the positive terminal on the power source. This will provide good penetration and bead profile.

DC- (Straight or DCEN) the electrode is attached to the negative terminal on the power source. Mostly used for TIG welding, this polarity ensures that most of the welding energy goes into the weld pool, helping to prevent overheating the tungsten.

AC is most commonly used for TIG welding aluminum or magnetized base metals. With AC current, the electrons change directions 60 times per second. There is, literally, no positive or negative as in DC power.