

Typical TIG Parameters For Fillet Welds In Aluminum

Aluminum Thickness (inches)	Weld Position ¹	Preheat (°F) ²	Weld Passes ³	Filler Diameter (inches)	Tungsten Electrode Diameter (inches)	Gas Cup Inside Diameter (inches)	Argon Flow (cfh)	AC (amps)	Arc Travel Speed (ipm)	Approx. Filler Rod Consumption (lb./100 ft)
1/16	F, H, V	None	1	3/32	1/16-3/32	3/8	16	70-100	8-10	0.5
	O	None	1	3/32	1/16-3/32	3/8	20	65-90	8-10	0.5
3/32	F	None	1	3/32-1/8	1/8-5/32	3/8	18	110-145	8-10	0.75
	H, V	None	1	3/32	3/32-1/8	3/8	18	90-125	8-10	0.75
	O	None	1	3/32	3/32-1/8	3/8	20	110-135	8-10	0.75
1/8	F	None	1	1/8	1/8-5/32	7/16	20	135-175	10-12	1
	H, V	None	1	1/8	3/32-1/8	3/8	20	115-145	8-10	1
	O	None	1	1/8	3/32-1/8	7/16	25	125-155	8-10	1
3/16	F	None	1	5/32	5/32-3/16	1/2	25	190-245	8-10	2.5
	H, V	None	1	5/32	5/32-3/16	1/2	25	175-210	8-10	2.5
	O	None	1	5/32	5/32-3/16	1/2	30	185-225	8-10	2.5
1/4	F	None	1	3/16	3/16-1/4	1/2	30	240-295	8-10	4.5
	H, V	None	1	3/16	3/16	1/2	30	220-265	8-10	4.5
	O	None	1	3/16	3/16	1/2	35	230-275	8-10	4.5
3/8	F		2	3/16	1/4	5/8	35	325-375	8-10	9.5
	V	Optional up to 250°F	2	3/16	3/16-1/4	5/8	35	280-315	8-10	9.5
	H	Max.	3	3/16	3/16-1/4	5/8	35	270-300	8-10	9.5
	O		3	3/16	3/16-1/4	5/8	40	290-335	8-10	9.5

1 F=Flat; V=Vertical; H=Horizontal; O=Overhead.

2 Preheating at excessive temperatures or for extended periods of time will reduce weld strength. This is particularly true for base metals in heat-treated tempers.

3 Number of weld passes and electrode consumption given for weld on one side only.

