

MIG settings by metal thickness

THICKNESS	WIRE	VOLTS	WIRE SPEED ipm	AMPS	TRAVEL ipm
24 ga 0.024 in · 0.6 mm	.023	14-16	150-190	44-56	10-20
22 ga 0.030 in · 0.8 mm	.030	14-16	110-130	52-66	11-21
20 ga 0.036 in · 0.9 mm	.030	14-16	120-150	59-76	12-21
18 ga 0.048 in · 1.2 mm	.030	15-17	150-190	75-95	14-23
16 ga 0.060 in · 1.5 mm	.030	15-17	180-220	88-112	16-24
14 ga 0.075 in · 1.9 mm	.030	16-18	220-260	106-134	16-24
12 ga 0.105 in · 2.7 mm	.030	17-19	240-290	116-148	15-23
11 ga · 1/8 in 0.125 in · 3.2 mm	.035	17-19	200-250	123-157	15-22
10 ga 0.135 in · 3.4 mm	.035	17-19	210-250	127-161	15-22
7 ga · 3/16 in 0.188 in · 4.8 mm	.035 .045 also runs	19-21	240-290	145-185	14-19
1/4 in 0.250 in · 6.3 mm	.035 .045 also runs	21-23	270-330	167-213	11-16
3/8 in 0.375 in · 9.5 mm	.035 .045 also runs	21-23	310-380	191-244	10-16
1/2 in 0.500 in · 12.7 mm	.035 .045 also runs	21-23	350-430	216-274	9-15

Amps are a working range, 12 percent either side of the middle. Wire speed is worked out from the amps and the wire size, give or take 10 percent.

Travel is for one normal pass. A bigger bead means slower. A stitch weld means faster.

On 3/16 inch and up, the wire speed shown is for .035 wire. .045 also runs there and feeds slower for the same amps: see the wire table below.

Gauge is steel sheet gauge, rounded to the nearest row. Plate over 1/4 inch wants a bevel and more than one pass. A heavy line across the chart marks where the recommended wire size changes.

Fatter wire feeds slower

THICKNESS	.023 WIRE	.030 WIRE	.035 WIRE	.045 WIRE
24 ga 0.024 in · 0.6 mm	150-190	90-110	70-90	60-70
22 ga 0.030 in · 0.8 mm	180-220	110-130	80-100	70-80
20 ga 0.036 in · 0.9 mm	210-250	120-150	100-120	80-100
18 ga 0.048 in · 1.2 mm	260-320	150-190	120-150	100-120
16 ga 0.060 in · 1.5 mm	310-370	180-220	140-180	120-140
14 ga 0.075 in · 1.9 mm	370-450	220-260	170-210	140-170
12 ga 0.105 in · 2.7 mm	400-490	240-290	190-230	150-190
11 ga · 1/8 in 0.125 in · 3.2 mm	430-520	250-310	200-250	160-200
10 ga 0.135 in · 3.4 mm	440-540	260-320	210-250	170-210
7 ga · 3/16 in 0.188 in · 4.8 mm	500-620	300-360	240-290	190-240
1/4 in 0.250 in · 6.3 mm	580-710	340-420	270-330	220-270
3/8 in 0.375 in · 9.5 mm	670-810	390-480	310-380	250-310
1/2 in 0.500 in · 12.7 mm	750-920	440-540	350-430	290-350

 The wire the chart picks for that thickness

 Poor fit. Thin wire on plate means a fast feed and extra passes. .045 on sheet means burn-through.