WELDING CABLE SIZE CHART

Copper welding cable size (AWG) by welding amps and the total length of both leads, from 100 to 350 A and up to 400 ft.

WELDING AMPS	TOTAL CABLE LENGTH: ELECTRODE LEAD PLUS WORK LEAD							
	100 ft or less 10–60% duty	100 ft or less 60–100% duty	150 ft 45 m	200 ft 60 m	250 ft 70 m	300 ft 90 m	350 ft 105 m	400 ft 120 m
100 A	4 20 mm²	4 20 mm²	4 20 mm²	3 30 mm²	2 35 mm²	1 50 mm²	1/0 60 mm²	1/0 60 mm²
150 A	3 30 mm²	3 30 mm²	2 35 mm²	1 50 mm²	1/0 60 mm²	2/0 70 mm²	3/0 95 mm²	3/0 95 mm²
200 A	3 30 mm²	2 35 mm²	1 50 mm²	1/0 60 mm²	2/0 70 mm²	3/0 95 mm²	4/0 120 mm²	4/0 120 mm²
250 A	2 35 mm²	1 50 mm²	1/0 60 mm²	2/0 70 mm²	3/0 95 mm²	4/0 120 mm²	2 × 2/0 2 × 70 mm²	2 × 2/0 2 × 70 mm²
300 A	1 50 mm²	1/0 60 mm²	2/0 70 mm²	3/0 95 mm²	4/0 120 mm²	2 × 2/0 2 × 70 mm²	2 × 3/0 2 × 95 mm²	2 × 3/0 2 × 95 mm²
350 A	1/0 60 mm²	2/0 70 mm²	3/0 95 mm²	4/0 120 mm²	2 × 2/0 2 × 70 mm²	2 × 3/0 2 × 95 mm²	2 × 3/0 2 × 95 mm²	2 × 4/0 2 × 120 mm²

Copper welding cable size in AWG, with the metric size below it. Red columns: at 100 ft or less the size depends on the duty cycle. The chart is a general guideline.

COUNT BOTH LEADS

Total length

Add the electrode lead and the work lead.

Example

25 ft electrode lead + 25 ft work lead = 50 ft: the 100 ft or less columns apply.

What the sizes do

They keep the drop to 4 volts or less, or give at least 300 circular mils per amp.

READING THE SIZES

2 × 2/0

Two 2/0 cables run side by side.

Thin to thick

4, 3, 2, 1, 1/0, 2/0, 3/0, 4/0 AWG.

Metric

The size in mm² is under each AWG size.

WHEN TO GO BIGGER

The cable gets hot

If a cable gets hot in use, go up one size.

Nothing smaller than 2 AWG

AWS Fact Sheet No. 39 advises it, for mechanical strength. Miller's table allows 3 and 4 AWG on voltage drop alone.

Sources: sizes from Miller Electric owner's manual OM-285986 (2022), 5-2 "Weld Output Terminals And Selecting Cable Sizes", with its notes on total length and going up a size if a cable overheats. The 2 AWG minimum from the American Welding Society, Fact Sheet No. 39, "Welding Cables". Compiled by Welding Tribe, November 2026. Free to print for your shop or class.