

Welding Cable Ampacities



Required Cable Sizes:

- For Arc Welding Cable Applications
- Length in feet for total circuit* for secondary voltage ONLY
(Do not use this table for 600 volt applications)

Amps	100'	150'	200'	250'	300'	350'	400'
100	4	4	2	2	1	1/0	1/0
150	4	2	1	1/0	2/0	3/0	3/0
200	2	1	1/0	2/0	3/0	4/0	4/0
250	1	1/0	2/0	3/0	4/0	-	-
300	1/0	2/0	3/0	4/0	-	-	-
350	1/0	3/0	4/0	-	-	-	-
400	2/0	3/0	-	-	-	-	-
450	2/0	4/0	-	-	-	-	-
500	3/0	4/0	-	-	-	-	-
550	3/0	4/0	-	-	-	-	-
600	4/0	-	-	-	-	-	-

* The total circuit length includes both welding and ground leads (based on 4-volt drop) 60% duty cycle

These values for current-carrying capacity are based on a copper temperature of 60C (140F), an ambient temperature of 40C (104F), and yield load factor of approximately 32% from the 2 AWG cable, approximately 23% for the 3/0 AWG cable and higher for the smaller sizes.

The sizes of cables generally used ranged from 2 AWG to 3/0 AWG. In actually service, the load factor may be much higher than indicated without overheating the cable as the ambient temperature will generally be substantially lower than 40C.

Suggested Ampacities for 600 volt in-line applications:

AWG	AMPERES	AWG	AMPERES
4/0	315	1	170
3/0	275	2	150
2/0	235	3	130
1/0	200	4	110
-	-	6	85

Per standards: ICEA S-19-81

NEMA WC-3 Part 8, Appendix J

Ampacities for portable cable, continuous duty (Ambient Temperature of 40C)