

Electrical Wire Sizes Selection Guide

The chart below indicates the approximate outside diameter of various insulated and uninsulated electrical wires. Utilize this table when selecting abrasion protection or cable accessory products, such as heat shrink or fixed diameter cable clamps.

THHW – Indicates a fine strand flexible wire with Thermoplastic insulation. Moisture, oil and acid resistant. Rated 105°C wet or dry.

THW – Indicates a single conductor having flame-retardant, moisture and heat-resistant thermoplastic insulation. The wire is rated 75°C wet or dry.

TW – Indicates a single conductor having flame-retardant, moisture-resistant thermoplastic insulation. The wire is rated 60°C wet or dry.

TFN – Indicates a thermoplastic-insulated wire. The wire is rated at a 90°C maximum operating temperature.

THHN – Indicates a single conductor having flame-retardant and heat-resistant thermoplastic insulation with a jacket of extruded nylon or equivalent material. The wire is rated 90°C dry only.

Size	Approximate Wire Outside Diameter In. (mm)			
	With THW/ THHW/TW Insulation	With TFN/ THHN/THWN Insulation	Uninsulated Conductors, Range	
			Min.	Max.
24 AWG	0.059 (1.5)	0.088 (2.2)	0.020 (0.5)	0.024 (0.6)
22 AWG	0.066 (1.7)	0.094 (2.4)	0.025 (0.6)	0.031 (0.8)
20 AWG	0.071 (1.8)	0.101 (2.6)	0.032 (0.8)	0.038 (1.0)
18 AWG	0.084 (2.1)	0.111 (2.8)	0.040 (1.0)	0.049 (1.2)
16 AWG	0.096 (2.4)	0.124 (3.1)	0.051 (1.3)	0.060 (1.5)
14 AWG	0.111 (2.8)	0.133 (3.4)	0.064 (1.6)	0.073 (1.9)
12 AWG	0.130 (3.3)	0.152 (3.9)	0.081 (2.1)	0.095 (2.4)
10 AWG	0.164 (4.2)	0.176 (4.5)	0.102 (2.6)	0.116 (2.9)
8 AWG	0.216 (5.5)	0.236 (6.0)	0.128 (3.3)	0.146 (3.7)
6 AWG	0.254 (6.5)	0.304 (7.7)	0.162 (4.1)	0.184 (4.7)
4 AWG	0.324 (8.2)	0.352 (8.9)	0.204 (5.2)	0.232 (5.9)
3 AWG	0.352 (8.9)	0.380 (9.7)	0.229 (5.8)	0.260 (6.6)
2 AWG	0.384 (9.8)	0.420 (10.7)	0.258 (6.6)	0.292 (7.4)
1 AWG	0.446 (11.3)	0.492 (12.5)	0.289 (7.3)	0.332 (8.4)
1/0	0.486 (12.3)	0.532 (13.5)	0.325 (8.3)	0.373 (9.5)
2/0	0.532 (13.5)	0.578 (14.7)	0.365 (9.3)	0.418 (10.6)
3/0	0.584 (14.8)	0.630 (16.0)	0.410 (10.4)	0.470 (11.9)
4/0	0.642 (16.3)	0.688 (17.5)	0.460 (11.7)	0.528 (13.4)
250 MCM	0.711 (18.1)	0.765 (19.4)	0.500 (12.7)	0.575 (14.6)
300 MCM	0.766 (19.5)	0.820 (20.8)	0.548 (13.9)	0.630 (16.0)
350 MCM	0.817 (20.8)	0.871 (22.1)	0.592 (15.0)	0.681 (17.3)
400 MCM	0.864 (21.9)	0.918 (23.3)	0.633 (16.1)	0.728 (18.5)
500 MCM	0.949 (24.1)	1.003 (25.5)	0.707 (18.0)	0.813 (20.7)
600 MCM	1.051 (26.7)	1.113 (28.3)	0.775 (19.7)	0.893 (22.7)
700 MCM	1.122 (28.5)	1.184 (30.1)	0.837 (21.3)	0.964 (24.5)
750 MCM	1.156 (29.4)	1.218 (30.9)	0.866 (22.0)	0.998 (25.3)
800 MCM	1.188 (30.2)	1.250 (31.8)	0.894 (22.7)	1.031 (26.2)
900 MCM	1.252 (31.8)	1.314 (33.4)	0.949 (24.1)	1.093 (27.8)
1000 MCM	1.310 (33.3)	1.372 (34.8)	1.000 (25.4)	1.152 (29.3)
1250 MCM	—	1.539 (39.1)	1.121 (28.5)	1.289 (32.7)
1500 MCM	—	1.662 (42.2)	1.228 (31.2)	1.412 (35.9)
1750 MCM	—	1.776 (45.1)	1.327 (33.7)	1.526 (38.8)
2000 MCM	—	1.882 (47.8)	1.419 (36.0)	1.632 (41.5)

THWN – Indicates a single conductor having flame-retardant, moisture and heat-resistant thermoplastic insulation with a jacket of extruded nylon or equivalent material. The wire is rated 75°C wet or dry. THWN wire suitable for exposure to mineral oil and to liquid gasoline and gasoline vapors at ordinary ambient temperature is marked “Gasoline and Oil Resistant I” if suitable for exposure to mineral oil at 60°C, or “Gasoline and Oil Resistant II” if the compound is suitable for exposure to mineral oil at 75°C. Gasoline-resistant wire has been tested at 23°C when immersed in gasoline. It is considered inherently resistant to gasoline vapors within the limits of the temperature rating.

WORLDWIDE SUBSIDIARIES AND SALES OFFICES

PANDUIT CANADA
Markham, Ontario
cs-cdn@panduit.com
Phone: 800.777.3300

PANDUIT EUROPE LTD.
London, UK
cs-emea@panduit.com
Phone: 44.20.8601.7200

PANDUIT SINGAPORE PTE. LTD.
Republic of Singapore
cs-ap@panduit.com
Phone: 65.6305.7575

PANDUIT JAPAN
Tokyo, Japan
cs-japan@panduit.com
Phone: 81.3.6863.6000

PANDUIT LATIN AMERICA
Guadalajara, Mexico
cs-la@panduit.com
Phone: 52.33.3777.6000

PANDUIT AUSTRALIA PTY. LTD.
Victoria, Australia
cs-aus@panduit.com
Phone: 61.3.9794.9020

For a copy of Panduit product warranties, log on to www.panduit.com/warranty

For more information

Visit us at www.panduit.com

Contact Customer Service by email: cs@panduit.com
or by phone: 800.777.3300 and reference WASG03

