NMWU Copper

Copper Conductors, 300V / -40ºC MIN, 60ºC MAX, PVC Insulation, PVC Jacket

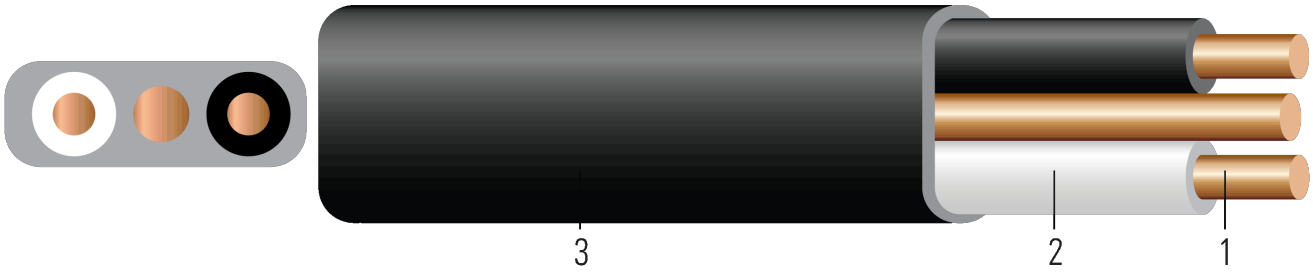

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Bare copper per ASTM B3. Sizes #14 AWG - #10 AWG are solid. Sizes #8 AWG - #2 AWG are Class B compressed stranded per ASTM B8.
2. **Insulation:** All phases are insulated with heat-resistant thermoplastic polyvinyl chloride (PVC) insulation
3. **Jacket:** Polyvinyl Chloride (PVC) jacket. Sunlight, moisture, and fungus-resistant

- Conductor Colors: 2/C Black, White
- Conductor Colors: 3/C Black, Red, White

APPLICATIONS AND FEATURES:

Southwire's CSA-NWMU cables may be used for underground installations, including direct burial. It may also be used for environments exposed to the weather in dry and wet locations. The maximum allowable conductor temperature is 60°C. The minimum recommended installation temperature is -40°C for two-conductor cables (sizes AWG 14 to AWG 6) and -25°C for all other sizes. For three-conductor cables the minimum recommended installation temperature is -10°C (with suitable handling procedures). Material should be properly stored above 0°C for 24 hours prior to installation. The maximum voltage rating for all intended applications is 300 volts. Consult the Canadian Electrical Code for further information related to applications.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- CSA C22.2 No. 48 non-metallic sheathed cable
- FT1 Flame Test (1,706 BTU/Hr nominal - Vertical Wire Flame Test)

SAMPLE PRINT LEGEND:

SOUTHWIRE LL90458 MASTER-DESIGN CSA XX AWG CU XX CDRS NMWU 300 VOLTS FT1

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Table 1 – Weights and Measurements

Stock Number	Cond. Size	Conductor Number	Diameter Over Conductor	Conductor Stranding	Insulation Thickness	Ground Size	Jacket Thickness	Approx. OD	Copper Weight	Overall Weight
	AWG/ Kcmil		inch		mils	No. x AWG	mil	inch	lbs/1000ft	lbs/1000ft
14 AWG | Solid										
471847◊	14	2	0.064	Solid	60	1 x 14	30	0.244x0.492	37	88
471888◊	14	3	0.064	Solid	60	1 x 14	30	0.504	50	117
12 AWG | Solid										
471854◊	12	2	0.080	Solid	60	1 x 14	30	0.261x0.526	51	109
471896◊	12	3	0.080	Solid	60	1 x 14	30	0.544	72	148
10 AWG | Solid										
471863◊	10	2	0.101	Solid	60	1 x 12	30	0.282x0.585	82	146
471912◊	10	3	0.101	Solid	60	1 x 12	30	0.595	115	200
471870◊	8	2	0.143	7	75	1 x 10	45	0.382x0.775	133	253
471920◊	8	3	0.143	7	75	1 x 10	45	0.794	186	344
481275◊	6	2	0.179	7	90	1 x 8	45	0.448x0.948	213	375
471938◊	6	3	0.179	7	90	1 x 8	45	0.954	297	513
672626◊	4	3	0.226	7	90	1 x 6	60	1.097	470	755
672634◊	2	3	0.286	7	90	1 x 6	80	1.277	702	1085

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item

Table 2 – Electrical and Engineering Data

Cond. Size	Conductor Number	Min. Bend Radius	DC Resistance at 25°C	AC Resistance at 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity Raceway 75°C	Allowable Ampacity Raceway 90°C
AWG/ Kcmil		Inches	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
14 AWG | Solid							
14	2	2.000	2.631	3.170	0.058	20	25
14	3	2.016	2.631	3.170	0.058	20	25
12 AWG | Solid							
12	2	2.400	1.662	2.002	0.054	25	30
12	3	2.176	1.662	2.002	0.054	25	30
10 AWG | Solid							
10	2	2.300	1.040	1.253	0.050	35	40
10	3	2.380	1.040	1.253	0.050	35	40
8	2	3.100	0.653	0.786	0.052	50	55
8	3	3.176	0.653	0.786	0.052	50	55
6	2	3.600	0.411	0.495	0.051	65	75
6	3	3.816	0.411	0.495	0.051	65	75
4	3	5.485	0.258	0.310	0.048	85	95
2	3	6.385	0.162	0.195	0.045	115	130

* Ampacity values based on Canadian Electrical Code, Part 1 2024 Table 2 and do not take into account the overcurrent protection limitations in CEC Rule 14-104(2) of 15 A for 14 AWG Cu, 20 A for 12 AWG Cu, and 30 A for 10 AWG Cu (independent of the conductor temperature rating and stranding). See also CEC Rules 4-004 and 4-006 for additional requirements.
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

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