SIMpull® T90 Copper

SIMpull® THHN THWN-2 MTW / c(UL) T90 Nylon TWN75 Copper Conductor, 600V, Thermoplastic-Insulated Cable, All Sizes Rated TWN75

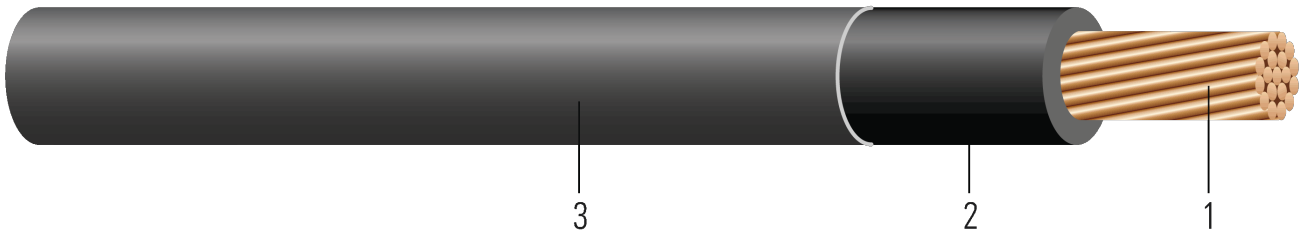

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid soft drawn copper per ASTM B3 or Combination unilay-stranded copper conductors per ASTM B3 and B787
2. **Insulation:** Colored Polyvinyl Chloride (PVC)
3. **Sheath:** Nylon sheath utilizing SIMpull® technology

APPLICATIONS AND FEATURES:

• SIMpull® THHN, THWN-2, and MTW (UL): Suitable for dry locations not exceeding 90°C. For Gasoline and Oil Resistant II applications not to exceed 75°C.
• MTW (UL): suitable for dry locations not exceeding 90°C. For wet locations, Gasoline and Oil Resistant II applications not to exceed 60°C.
• T90 Nylon c(UL): cables are primarily intended for installation in conduit (raceways) as exposed wiring in dry locations not exceeding 90°C.
• TWN75 c(UL): suitable for wet or dry locations at not more than 75°C.

The maximum voltage rating for all intended applications is 600 volts. Minimum installation handling temperature is limited to -25°C. Minimum operating temperature limited to -40°C. Non-SIMpull Silicone Free sizes 14, 12, and 10 AWG.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B787 19 Wire Combination Unilay-Stranded Copper Conductors
- UL 83 Thermoplastic Insulated Wires and Cables
- UL 758 Standard for Appliance Wiring Material
- UL 1063 Machine Tool Wiring (MTW)
- CSA Certified LL90458
- CSA C22.2 No. 75 Thermoplastic Insulated Wires and Cables
- Canadian Electrical Code
- CSA FT-1 Flame Test

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SAMPLE PRINT LEGEND:

SOUTHWIRE SIMpull™ E51583 {UL} (XX AWG) XX.X{mm2} CU TYPE MTW OR THWN-2 OR THHN OR GASOLINE AND OIL RESISTANT II OR AWM 600 VOLTS VW-1 --- {CSA} T90 NYLON OR TWN75 600 VOLTS FT1 {NOM}-ANCE 90°C - (X AWG) --- RoHS PAT www.patentSW.com

Table 1 – Weights and Measurements

Cond. Size	Cond. Number	Strand Count	Diameter Over Conductor	Insul. Thickness	Insulation Color	Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight
AWG/ Kcmil		No. of Strands	inch	mil		mil	inch	lb/1000ft	lb/1000ft
12	1	19	0.09	15	BE	5	0.132	20	24

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Table 2 – Electrical and Engineering Data

Cond. Size	Cond. Number	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 75°C	Inductive Reactance @ 60Hz	Allowable Ampacity At 75°C	Allowable Ampacity At 90°C
AWG/ Kcmil		inch	lb	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp
12	1	0.5	52	1.662	2.063	0.054	25	30

* Ampacities based upon 2023 NEC Table 310.16 and do not take into account the overcurrent protection limitations in NEC 240.4(D) of 15 Amps for 14 AWG CU, 20 Amps for 12 AWG CU, and 30 Amps for 10 AWG CU (independent of the conductor temperature rating and stranding if size is present in table). Also, see NEC sections 310.15 and 110.14(C) for additional requirements.
* Ampacities have been adjusted for more than Three Current-Carrying Conductors.
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
* Non-SIMpull Silicone Free sizes: 14, 12, and 10 AWG.

Table 3- Stock Code by Color

Cond. Size AWG	Stranding Num	Black	Red	White	Yellow	Orange	Blue	Brown	Green	White/Blue
14	1 (SOLID)	507665	507699	507673	507723	610483	507707	553096	507681	
14	19	472001	472027	472019	672659	687517	472043	507715	472035	678050
12	1 (SOLID)	495770	495796	495788	507657	507632	495812	507640	495804	
12	19	472050	472076	472068	672675	552660	472092	672667	472084	
10	1 (SOLID)	507731	484626	507749			507756		672683	
10	19	472100	472126	472118	552663	610486	472142	552662	472134	
8	19	472159	611462 or 472175	472167			472191		472183	
6	19	472209	472225	472217			472241		472233	
4	19	472258							472282	
3	19	484675		484667					684068	
2	19	672386		672394					684076	
1	19	684084								
1/0	19	471979								
2/0	19	672402							688051	
3/0	19	471995		471987						
4/0	19			677820						

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