SIMpull® T90 Copper

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

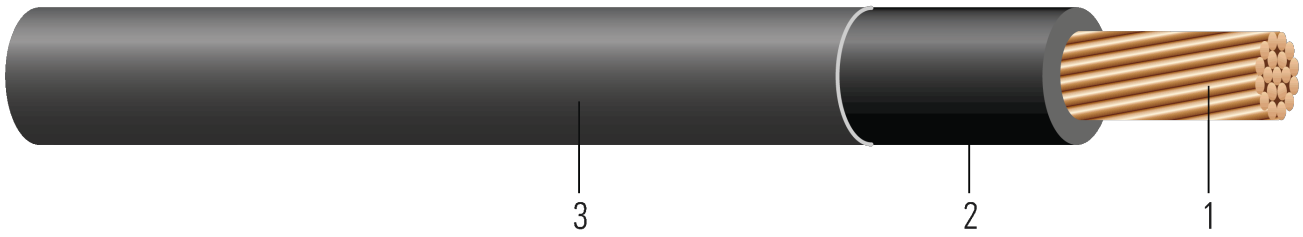

Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Solid per ASTM B3 or Combination unilay-stranded copper conductors per ASTM B787.
2. **Insulation:** All phases are insulated with Polyvinyl Chloride with Nylon Sheath
3. **Jacket:** Polyvinyl Chloride PVC jacket utilizing SIMpull® Technology.

APPLICATIONS AND FEATURES:

SIMpull® THHN, THWN-2, 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 size 14, 12, 10.

SPECIFICATIONS:

- ASTM B3 Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- CSA Certified LL90458
- ASTM B787 19 Wire Combination Unilay-Stranded Copper Conductors
- Canadian Electrical Code
- CSA FT-1 Flame Test

SAMPLE PRINT LEGEND:

SOUTHWIRE SIMpull{TM} 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

UPDATED: Jan. 17, 2025, 2:57 p.m.UTC REVISION: 1.000.019

Table 1 – Weights and Measurements

Stock Number	Cond. Size	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
507665◊	14	Solid	0.064	15	BK	5	0.106	12	15
507715◊	14	19	0.073	15	BN	5	0.113	12	16
495770◊	12	Solid	0.080	15	BK	5	0.122	19	23
672667◊	12	19	0.090	15	BN	5	0.132	20	24
484626◊	10	Solid	0.101	20	RD	5	0.153	31	37
472142◊	10	19	0.117	20	BE	5	0.165	32	38
472183◊	8	19	0.143	30	GN	5	0.217	50	63
472233◊	6	19	0.179	30	GN	5	0.253	81	95
677345◊	4	19	0.226	40	WE	5	0.324	128	154
677819◊	3	19	0.254	40	RD	5	0.352	162	190
672394◊	2	19	0.286	40	WE	5	0.384	204	236
677817◊	1/0	19	0.361	50	WE	8	0.480	326	374
688051◊	2/0	19	0.420	50	GN	5	0.524	410	465
471995◊	3/0	19	0.471	50	BK	5	0.574	518	578
677818◊	350	37	0.661	60	BK		0.783	1080	1164
684084◊	1	19	0.322	50	BK	8	0.439	258	301
677820◊	4/0	19	0.512	50	WE	8	0.630	655	723

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

Stock Number	Cond. Size	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
507665◊	14	0.400	32	2.631	3.170	0.058	20	25
507715◊	14	0.500	32	2.631	3.170	0.058	20	25
495770◊	12	0.400	52	1.662	2.002	0.054	25	30
672667◊	12	0.500	52	1.662	2.002	0.054	25	30
484626◊	10	0.600	83	1.040	1.253	0.050	35	40
472142◊	10	0.700	83	1.040	1.253	0.050	35	40
472183◊	8	0.900	132	0.653	0.786	0.052	50	55
472233◊	6	1.000	209	0.411	0.495	0.051	65	75
677345◊	4	1.300	333	0.258	0.310	0.048	85	95
677819◊	3	1.400	420	0.205	0.246	0.047	100	115
672394◊	2	1.500	530	0.162	0.195	0.045	115	130
677817◊	1/0	1.900	844	0.102	0.122	0.044	150	170
688051◊	2/0	2.100	1064	0.081	0.097	0.043	175	195
471995◊	3/0	2.300	1342	0.064	0.078	0.042	200	225
677818◊	350	3.2	2800	0.031	0.039	0.040	310	350
684084◊	1	1.700	669	0.128	0.154	0.046	130	145
677820◊	4/0	2.500	1692	0.051	0.062	0.041	230	260

* 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, 10.

Table 3 - Stock Code Colors (/ means stripe. Blue/White: Blue with White Stripe)

Size (Strand)	Color	Stock Number
14 (Solid)	BK	507665
14 (Solid)	RD	507699
14 (Solid)	WE	507673
14 (Solid)	YW	507723
14 (Solid)	OE	610483
14 (Solid)	BE	507707
14 (Solid)	BN	553096
14 (Solid)	GN	507681
14 (19)	BK	472001
14 (19)	WE/BE	678050
14 (19)	YW	672659
14 (19)	WE	472019
14 (19)	RD	472027
14 (19)	OE	687517
14 (19)	BE	472043
14 (19)	GN	472035
14 (19)	BN	507715
12 (Solid)	BK	495770
12 (Solid)	OE	507632
12 (Solid)	BE	495812
12 (Solid)	GN	495804
12 (Solid)	BN	507640
12 (Solid)	WE	495788
12 (Solid)	RD	495796
12 (Solid)	YW	507657
12 (19)	BK	472050
12 (19)	WE	472068
12 (19)	YW	672675
12 (19)	BE	472092
12 (19)	RD	472076
12 (19)	GN	472084
12 (19)	OE	552660
12 (19)	BN	672667
10 (Solid)	RD	484626
10 (Solid)	BE	507756
10 (Solid)	BK	507731
10 (Solid)	GN	672683
10 (Solid)	WE	507749
10 (19)	BK	472100
10 (19)	YW	552663
10 (19)	OE	610486
10 (19)	GN	472134
10 (19)	WE	472118
10 (19)	BN	552662
10 (19)	RD	472126

Size (Strand)	Color	Stock Number
10 (19)	BE	472142
8 (19)	BK	472159
8 (19)	RD	611462
8 (19)	RD	472175
8 (19)	WE	472167
8 (19)	BE	472191
8 (19)	GN	472183
6 (19)	BK	472209
6 (19)	WE	472217
6 (19)	RD	472225
6 (19)	BE	472241
6 (19)	GN	472233
4 (19)	BK	472258
4 (19)	GN	472282
3 (19)	WE	484667
3 (19)	GN	684068
3 (19)	BK	484675
2 (19)	BK	672386
2 (19)	GN	684076
2 (19)	WE	672394
1 (19)	BK	684084
1/0 (19)	BK	471979
2/0 (19)	GN	688051
2/0 (19)	BK	672402
3/0 (19)	WE	471987
3/0 (19)	BK	471995
4/0 (19)	WE	677820