

# TC-THHN/THWN-2 Copper, PVC/Nylon Insulated

PVC Jacketed; ER; FT4; RoHS; 600 V

**CME**<sup>®</sup>  
wire and cable

A Viakable Company

## Features

Complete cable is RoHS compliance.

UL Listed as TC

The complete cable (14 AWG and larger) is UL listed as FT4 rated and meets the following 70,000 Btu/h Vertical Tray Flame Tests:

- IEEE 383
- ICEA T-30-520

Cable is rated ER and Direct Buried in sizes 14 AWG and larger.

Single conductors are dual rated THHN/THWN-2 in sizes 14 AWG and larger.

## Application

These cables are specifically approved for power, control, lighting and signal circuits, in manufacturing, industrial and commercial installations.

For use in accordance with NEC, Article 336, in cable trays, in raceways, or where supported in outdoor locations by a messenger wire.

In cable tray in hazardous

(classified) locations Class I, Division 2 per NEC, also as Class I circuits per Article 725.

## Standards

UL 1277

Electrical Power and Control Tray Cables with Optional Optical-Fiber Members.

UL 83

Thermoplastic-Insulated Wires and Cables.

ICE A S-73-5 32

NEMA WC57

Standard for Control Cables.

ICE A S-95-658

Standard for Non-shielded Power Cables Rated 2000 Volts or Less.

## Specifications

Maximum operating voltage:

- 600 volts

Maximum conductor operation temperatures:

- 90 °C wet and dry

## Engineering Information

**1. Conductor:** Soft annealed uncoated copper compressed Class B or C stranding or unilay-

compressed (19 wires) per ASTM B8, or combination unilay per ASTM B787.

**Sizes:** 14 AWG up to 1000 kcmil.

**2. Insulation:** RoHS and flame retardant thermoplastic polyvinyl chloride (PVC) and nylon covering.

**Conductor Identification ICEA:**

**14 AWG – 10 AWG:** Color coded per Method 1 Table E-2, **without White and Green colors.**

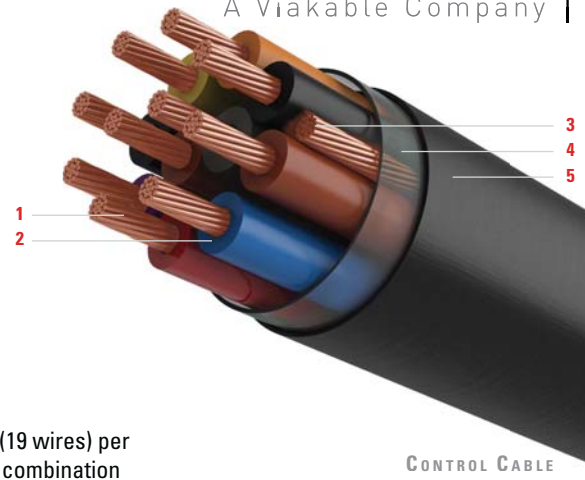
*On request, Table E-1, which includes White and Green colors.*

**Sizes 8 AWG – 1000 kcmil:** Black insulation with Printed numbers, 1, 2, 3, or 4.

*On request, Color coded, BL, WH and Red or Green.*

**3. Grounding (Optional):** One bare or one or more insulated conductors.

**4. Assembly:** Phase and optional grounding conductor(s) cabled



CONTROL CABLE



POWER CABLE

**Technical Data *continued***

**RoHS THHN/THWN-2 600 V**

Size	Number of Strands	Insulation: PVC/Nylon	Nominal Insulated OD
14 AWG	19	15/5 mil	102 mil
Number of Conductors	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight lb/kft
2 Flat	45	0.21 x 0.32	57
3	45	0.34	77
4	45	0.37	96
5	45	0.40	119
6	45	0.43	142
7	45	0.43	152
8	45	0.50	191
9	60	0.58	219
10	60	0.58	229
12	60	0.59	264
14	60	0.62	301
15	60	0.66	331
16	60	0.66	340
18	60	0.69	381
19	60	0.69	391
20	60	0.72	422
24	60	0.79	509
26	60	0.82	528
30	80	0.89	627
33	80	0.92	684
37	80	0.95	752

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product. Other sizes available upon request.

**Ampacities:** Refer to beginning of section.

**Technical Data *continued***

**RoHS THHN/THWN-2 600 V**

Size	Number of Strands	Insulation: PVC/Nylon	Nominal Insulated OD
12 AWG	19	15/5 mil	120 mil
Number of Conductors	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight lb/kft
2 Flat	45	0.22 x 0.35	78
2	45	0.36	87
3	45	0.38	112
4	45	0.41	134
5	45	0.45	167
6	45	0.49	199
7	45	0.49	216
8	60	0.60	288
9	60	0.65	306
10	60	0.65	322
12	60	0.67	374
14	60	0.70	428
15	60	0.74	470
16	60	0.74	486
18	60	0.78	545
19	60	0.78	561
20	60	0.82	605
24	80	0.94	769
26	80	0.97	801
30	80	1.00	896
33	80	1.04	981
37	80	1.08	1082

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product. Other sizes available upon request.  
**Ampacities:** Refer to beginning of section.

Technical Data *continued*

## RoHS THHN/THWN-2 600 V

Size	Number of Strands	Insulation: PVC/Nylon	Nominal Insulated OD
10 AWG	19	20/5 mil	154 mil
Number of Conductors	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight
	mil	in	lb/kft
2 Flat	45	0.26 x 0.42	113
2	45	0.43	128
3	45	0.45	167
4	45	0.49	212
5	60	0.57	270
6	60	0.62	321
7	60	0.62	346
8	60	0.72	434
9	60	0.79	460
10	60	0.79	485
12	60	0.81	567
14	80	0.90	689
15	80	0.94	755
16	80	0.94	780
18	80	0.99	874
19	80	0.99	900
20	80	1.04	971
24	80	1.14	1173
26	80	1.18	1221
30	80	1.22	1374
33	80	1.27	1504
37	80	1.32	1663

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product. Other sizes available upon request.

**Ampacities:** Refer to beginning of section.

Size AWG or kcmil	Number of Strands	Insulation Thickness PVC/Nylon mil	Optional Grounding* Conductor AWG	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
						W/O Ground lb/kft	Ground lb/kft
<b>Two Conductors</b>							
8	7	30/6	10	60	0.56	214	251
6	19	30/6	8	60	0.63	299	355
4	19	40/7	8	60	0.77	453	518
2	19	40/7	6	80	0.93	692	791
1	19	50/8	6	80	1.05	867	977
1/0	19	50/8	6	80	1.13	1045	1164
2/0	19	50/8	6	80	1.22	1265	1395
3/0	19	50/8	4	80	1.32	1539	1720
4/0	19	50/8	4	80	1.46	1900	2102
250	37	60/9	4	80	1.57	2214	2432
300	37	60/9	3	110	1.74	2701	2964
350	37	60/9	3	110	1.84	3089	3369
500	37	60/9	2	110	2.09	4232	4599
600	61	80/10	2	110	2.33	5108	5529
750	61	80/10	1	110	2.54	6235	6751

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product. Other sizes available upon request.

**Ampacities:** Refer to beginning of section.

\* At the option of manufacturer, Ground Conductor can be divided in three, one in each interstice.

Technical Data *continued*

## RoHS THHN/THWN-2 600 V

Size AWG or kcmil	Number of Strands	Insulation Thickness PVC/Nylon	Optional Grounding*	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
		mil	AWG	mil	in	W/O Ground lb/kft	Ground lb/kft
<b>Three Conductors</b>							
8	7	30/6	10	60	0.59	279	311
6	19	30/6	8	60	0.67	396	448
4	19	40/7	8	60	0.82	606	660
2	19	40/7	6	80	0.99	929	1011
1	19	50/8	6	80	1.12	1168	1257
1/0	19	50/8	6	80	1.21	1418	1512
2/0	19	50/8	6	80	1.30	1728	1827
3/0	19	50/8	4	80	1.41	2115	2259
4/0	19	50/8	4	80	1.56	2618	2773
250	37	60/9	4	110	1.74	3164	3328
300	37	60/9	3	110	1.85	3712	3912
350	37	60/9	3	110	1.96	4260	4469
500	37	60/9	2	110	2.24	5878	6149
600	61	80/10	2	110	2.50	7093	7393
750	61	80/10	1	110	2.72	8692	9062
<b>Four Conductors</b>							
8	7	30/6	10	60	0.65	354	387
6	19	30/6	8	60	0.74	508	560
4	19	40/7	8	80	0.95	821	873
2	19	40/7	6	80	1.09	1199	1281
1	19	50/8	6	80	1.23	1508	1590
1/0	19	50/8	6	80	1.33	1836	1922
2/0	19	50/8	6	80	1.44	2243	2334
3/0	19	50/8	4	80	1.56	2752	2886
4/0	19	50/8	4	110	1.79	3521	3663
250	37	60/9	4	110	1.92	4109	4257
300	37	60/9	3	110	2.05	4829	5012
350	37	60/9	3	110	2.17	5551	5740
500	37	60/9	2	110	2.48	7683	7927
600	61	80/10	2	140	2.83	9449	9714
750	61	80/10	1	140	3.08	11573	11901

The above data are approximate and subject to normal manufacturing tolerances. Where required, the compatibility with glands, connectors and accessories should be verified using actual dimensions of the product. Other sizes available upon request.

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