

MC, THHN/THWN-2 Copper

PVC/Nylon Insulated, 600 V

CME[®]
wire and cable

A Viakable Company

Features

UL listed as MC.

Cable rated for Sunlight Resistance for CT use.

Jacket is rated Oil Resistance I.

Singles meet VW-1 flame test.

Single conductors are dual rated THHN/THWN-2 in sizes 8 AWG and larger, and THHN/THWN for sizes 18 AWG up to 10 AWG.

Aluminum armor is rated for Direct Burial, using 6 AWG and larger conductors, with overall jacket.

Application

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

May be used in wet or dry locations, where exposed or concealed, installed in cable trays, raceways, duct, and open air, aerially or directly buried.

In hazardous (classified) locations Class I, Division 2, as permitted by NEC.

Standards

UL 1569

Metal Clad Cables.

UL 1277

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

UL 83

Thermoplastic-Insulated Wires and Cables.

ICEA S-73-532 NEMA WC57

Standard for Control Cables.

ICEA S-95-658

Standard for Nonshielded Power Cables Rated 2000 Volts or Less.

Specifications

Maximum operating voltage:

- 600 volts

Maximum conductor operation temperatures:

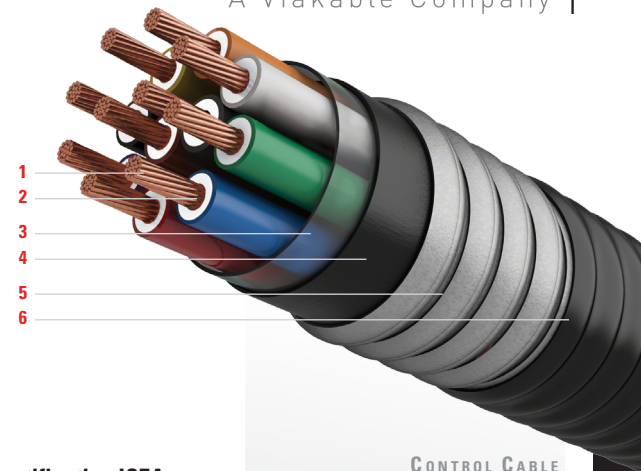
- THHN/THWN-2
90 °C wet & dry
- THHN/THWN
90 °C dry / 75 °C wet

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: Flame retardant thermoplastic polyvinyl chloride (PVC) and nylon covering.



CONTROL CABLE

Conductor Identification ICEA:

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

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

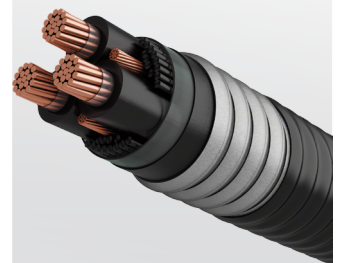
Grounding: One bare or one or more insulated conductors.

3. Assembly: Phase and grounding conductor(s) cabled with non hygroscopic fillers, as required and binder tape.

4. Inner Jacket (Optional): Black sunlight resistant and flame retardant polyvinyl chloride (PVC) compound.

5. Armor: Aluminum or galvanized steel interlocked armor, applied over the binder tape or optional inner jacket.

6. Jacket: Black sunlight resistant and flame retardant polyvinyl chloride (PVC) compound.



POWER CABLE

Technical Data

14 AWG Armored and Sheathed

Number of Conductors	Approximate OD Over Armor	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
				Steel Armor	Aluminum Armor
	in	mil	in	lb/kft	lb/kft
8	0.65	50	0.76	455	303
9	0.70	50	0.81	485	321
10	0.70	50	0.81	495	331
12	0.71	50	0.82	537	369
14	0.74	50	0.85	591	415
15	0.77	50	0.88	629	443
16	0.77	50	0.88	642	457
19	0.81	50	0.92	703	508
20	0.84	50	0.95	748	544
24	0.92	50	1.03	904	697
25	0.94	50	1.05	931	720
27	0.94	50	1.05	951	740
30	0.97	50	1.08	1018	799
35	1.03	50	1.14	1151	916
37	1.03	50	1.14	1172	937
40	1.07	50	1.18	1248	1004
50	1.19	50	1.30	1494	1218
61	1.22	50	1.33	1694	1410

Size AWG	Insulation Thickness		Single Conductor OD
	PVC / mil	Nylon / mil	mil
14	15	5	112

14 AWG Jacketed, Armored and Sheathed

Number of Conductors	Approximate OD Over Armor	Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
				Steel Armor	Aluminum Armor
	in	mil	in	lb/kft	lb/kft
4	0.62	50	0.73	390	247
5	0.65	50	0.76	430	278
6	0.69	50	0.80	471	310
7	0.69	50	0.80	488	326
8	0.76	50	0.87	558	377
9	0.80	50	0.91	592	400
10	0.80	50	0.91	602	410
12	0.82	50	0.93	647	449
14	0.85	50	0.96	704	498
15	0.88	50	0.99	787	591
16	0.88	50	0.99	801	605
19	0.91	50	1.02	867	663
20	0.95	50	1.06	918	705
24	1.02	50	1.13	1041	808
25	1.04	50	1.15	1070	832
27	1.04	50	1.15	1090	852
30	1.07	50	1.18	1160	915
35	1.14	50	1.25	1300	1039
37	1.14	50	1.25	1321	1059
40	1.17	50	1.28	1400	1130
50	1.29	50	1.40	1659	1357
61	1.33	50	1.44	1863	1552

Size AWG	Insulation Thickness		Single Conductor OD
	PVC / mil	Nylon / mil	mil
14	15	5	112

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. THWN-2 rating is only applicable to 8 AWG and larger.

Ampacities: Refer to beginning of section.

Technical Data

12 AWG Armored and Sheathed

Number of Conductors	Approximate OD Over Armor in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
				Steel Armor lb/kft	Aluminum Armor lb/kft
6	0.64	50	0.75	456	309
7	0.64	50	0.75	481	334
8	0.72	50	0.83	562	393
9	0.77	50	0.88	601	417
10	0.77	50	0.88	617	433
12	0.79	50	0.90	678	488
14	0.82	50	0.93	753	554
15	0.86	50	0.97	803	594
16	0.86	50	0.97	824	615
19	0.90	50	1.01	955	754
20	0.94	50	1.05	1017	806
24	1.03	50	1.14	1173	939
25	1.05	50	1.16	1210	971
27	1.05	50	1.16	1243	1003
30	1.08	50	1.19	1337	1089
35	1.16	50	1.27	1524	1257
37	1.16	50	1.27	1556	1289
40	1.20	50	1.31	1663	1386
50	1.34	50	1.45	2007	1693
61	1.38	50	1.49	2302	1979

Size AWG	Insulation Thickness		Single Conductor OD
	PVC / mil	Nylon / mil	mil
12	15	5	130

12 AWG Jacketed, Armored and Sheathed

Number of Conductors	Approximate OD Over Armor in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
				Steel Armor lb/kft	Aluminum Armor lb/kft
2	0.61	50	0.72	367	227
3	0.63	50	0.74	405	259
4	0.67	50	0.78	451	296
5	0.70	50	0.81	504	338
6	0.74	50	0.85	558	382
7	0.74	50	0.85	583	407
8	0.82	50	0.93	672	474
9	0.87	50	0.98	759	564
10	0.87	50	0.98	775	580
12	0.89	50	1.00	839	639
14	0.93	50	1.04	919	711
15	0.96	50	1.07	975	758
16	0.96	50	1.07	996	778
19	1.00	50	1.11	1089	862
20	1.04	50	1.15	1156	918
24	1.13	50	1.24	1322	1061
25	1.15	50	1.26	1361	1095
27	1.15	50	1.26	1393	1127
30	1.19	50	1.30	1492	1217
35	1.26	50	1.37	1686	1392
37	1.26	50	1.37	1719	1425
40	1.30	50	1.41	1829	1525
50	1.45	50	1.56	2188	1847
61	1.48	50	1.59	2488	2137

Size AWG	Insulation Thickness		Single Conductor OD
	PVC / mil	Nylon / mil	mil
12	15	5	130

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. THWN-2 rating is only applicable to 8 AWG and larger.

Ampancites: Refer to beginning of section.

Technical Data

10 AWG Armored and Sheathed

Number of Conductors	Approximate OD Over Armor in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
				Steel Armor	Aluminum Armor
				lb/kft	lb/kft
4	0.64	50	0.75	472	323
5	0.69	50	0.80	532	370
6	0.74	50	0.85	605	429
7	0.74	50	0.85	644	468
8	0.84	50	0.95	759	555
9	0.91	50	1.02	856	653
10	0.91	50	1.02	882	679
12	0.93	50	1.04	976	767
14	0.97	50	1.08	1093	872
15	1.02	50	1.13	1168	936
16	1.02	50	1.13	1201	969
19	1.07	50	1.18	1336	1091
20	1.12	50	1.23	1427	1170
24	1.23	50	1.34	1659	1372
25	1.26	50	1.37	1714	1421
27	1.26	50	1.37	1766	1472
30	1.30	50	1.41	1910	1606
35	1.40	50	1.51	2192	1864
37	1.40	50	1.51	2244	1916
40	1.45	50	1.56	2406	2065
50	1.63	60	1.76	2855	2523
61	1.68	60	1.81	3316	2974

Size AWG	Insulation Thickness		Single Conductor OD
	PVC / mil	Nylon / mil	mil
	10	20	5

10 AWG Jacketed, Armored and Sheathed

Number of Conductors	Approximate OD Over Armor in	Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
				Steel Armor	Aluminum Armor
				lb/kft	lb/kft
2	0.68	50	0.79	453	293
3	0.71	50	0.82	509	343
4	0.75	50	0.86	575	397
5	0.80	50	0.91	639	448
6	0.85	50	0.96	717	512
7	0.95	50	0.96	757	552
8	0.95	50	1.06	929	716
9	1.01	50	1.12	992	762
10	1.01	50	1.12	1017	788
12	1.03	50	1.14	1114	879
14	1.08	50	1.19	1235	989
15	1.12	50	1.23	1316	1057
16	1.12	50	1.23	1349	1090
19	1.17	50	1.28	1489	1217
20	1.22	50	1.33	1585	1302
24	1.34	50	1.45	1829	1516
25	1.36	50	1.47	1887	1567
27	1.36	50	1.47	1938	1619
30	1.41	50	1.52	2087	1756
35	1.50	50	1.61	2282	1978
37	1.50	50	1.61	2334	2030
40	1.55	60	1.68	2531	2217
50	1.73	60	1.86	3061	2706
61	1.78	60	1.91	3527	3162

Size AWG	Insulation Thickness		Single Conductor OD
	PVC / mil	Nylon / mil	mil
	10	20	5

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. THWN-2 rating is only applicable to 8 AWG and larger.

Ampacities: Refer to beginning of section.

Technical Data

Three Conductors 600 V, Armored and Sheathed

Size AWG or kcmil	Number of Strands	Insulation Thickness		Minimum Grounding* Conductor Size	Approximate OD Over Armor	Outer Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
		PVC	Nylon					Steel Armor lb/kft	Aluminum Armor lb/kft
		mil		AWG	in	mil	in		
8	7	30	6	10	0.71	50	0.82	584	415
6	7	30	6	8	0.79	50	0.90	752	562
4	7	40	7	8	0.94	50	1.05	1075	863
2	7	40	7	6	1.07	50	1.18	1446	1202
1	19	50	8	6	1.20	50	1.31	1747	1470
1/0	19	50	8	6	1.28	50	1.39	2039	1739
2/0	19	50	8	6	1.38	50	1.49	2395	2072
3/0	19	50	8	4	1.49	50	1.60	2874	2523
4/0	19	50	8	4	1.64	60	1.77	3383	3049
250	37	60	9	4	1.76	60	1.89	3877	3518
300	37	60	9	3	1.87	60	2.00	4470	4086
350	37	60	9	3	1.98	60	2.11	5088	4681
400	37	60	9	3	2.07	60	2.20	5670	5242
500	37	60	9	2	2.25	75	2.41	6930	6462
600	61	80	10	2	2.51	75	2.67	8268	7744
750	61	80	10	1	2.73	75	2.89	10014	9442

Four Conductors 600 V, Armored and Sheathed

Size AWG or kcmil	Number of Strands	Insulation Thickness		Minimum Grounding* Conductor Size	Approximate OD Over Armor	Outer Jacket Thickness	Approximate Outside Diameter	Approximate Net Weight	
		PVC	Nylon					Steel Armor lb/kft	Aluminum Armor lb/kft
		mil		AWG	in	mil	in		
8	7	30	6	10	0.77	50	0.88	679	495
6	7	30	6	8	0.86	50	0.97	888	679
4	7	40	7	8	1.02	50	1.13	1280	1047
2	7	40	7	6	1.16	50	1.27	1746	1477
1	19	50	8	6	1.31	50	1.42	2116	1809
1/0	19	50	8	6	1.41	50	1.52	2485	2154
2/0	19	50	8	6	1.52	60	1.65	2875	2568
3/0	19	50	8	4	1.64	60	1.77	3469	3136
4/0	19	50	8	4	1.81	60	1.94	4196	3825
250	37	60	9	4	1.94	60	2.07	4826	4427
300	37	60	9	3	2.06	60	2.19	5588	5161
350	37	60	9	3	2.18	60	2.31	6375	5923
400	37	60	9	3	2.30	75	2.46	7198	6721
500	37	60	9	2	2.50	75	2.66	8723	8203
600	61	80	10	2	2.78	75	2.94	10426	9843
750	61	80	10	1	3.03	85	3.21	12731	12094

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.

Amcapacities: Refer to beginning of section.

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

Technical Data

Three Conductors 600 V, Jacketed, Armored and Sheathed

Size AWG or kcmil	Number of Strands	Insulation Thickness		Minimum Grounding* Conductor Size AWG	Approximate OD Over Armor in	Outer Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
		PVC	Nylon					Steel Armor lb/kft	Aluminum Armor lb/kft
		mil							
8	7	30	6	10	0.82	50	0.93	693	496
6	7	30	6	8	0.90	50	1.01	914	714
4	7	40	7	8	1.04	50	1.15	1214	976
2	7	40	7	6	1.17	50	1.28	1599	1328
1	19	50	8	6	1.30	50	1.41	1914	1610
1/0	19	50	8	6	1.39	50	1.50	2214	1888
2/0	19	50	8	6	1.48	50	1.59	2581	2230
3/0	19	50	8	4	1.59	60	1.72	3002	2679
4/0	19	50	8	4	1.75	60	1.88	3591	3234
250	37	60	9	4	1.88	60	2.01	4141	3755
300	37	60	9	3	1.99	60	2.12	4749	4338
350	37	60	9	3	2.10	60	2.23	5380	4946
400	37	60	9	3	2.20	60	2.33	5975	5519
500	37	60	9	2	2.38	75	2.54	7261	6766
600	61	80	10	2	2.67	75	2.83	8725	8167
750	61	80	10	1	2.89	75	3.05	10505	9899

Four Conductors 600 V, Jacketed, Armored and Sheathed

Size AWG or kcmil	Number of Strands	Insulation Thickness		Minimum Grounding* Conductor Size AWG	Approximate OD Over Armor in	Outer Jacket Thickness mil	Approximate Outside Diameter in	Approximate Net Weight	
		PVC	Nylon					Steel Armor lb/kft	Aluminum Armor lb/kft
		mil							
8	7	30	6	10	0.87	50	0.98	837	643
6	7	30	6	8	0.96	50	1.07	1061	843
4	7	40	7	8	1.13	50	1.24	1428	1168
2	7	40	7	6	1.27	50	1.38	1908	1613
1	19	50	8	6	1.42	50	1.53	2294	1961
1/0	19	50	8	6	1.51	60	1.64	2609	2303
2/0	19	50	8	6	1.62	60	1.75	3069	2739
3/0	19	50	8	4	1.74	60	1.87	3675	3320
4/0	19	50	8	4	1.93	60	2.06	4467	4069
250	37	60	9	4	2.06	60	2.19	5113	4687
300	37	60	9	3	2.19	60	2.32	5891	5438
350	37	60	9	3	2.31	75	2.47	6768	6288
400	37	60	9	3	2.42	75	2.58	7534	7030
500	37	60	9	2	2.62	75	2.78	9084	8537
600	61	80	10	2	2.94	75	3.10	10925	10308
750	61	80	10	1	3.19	85	3.37	13272	12601

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.