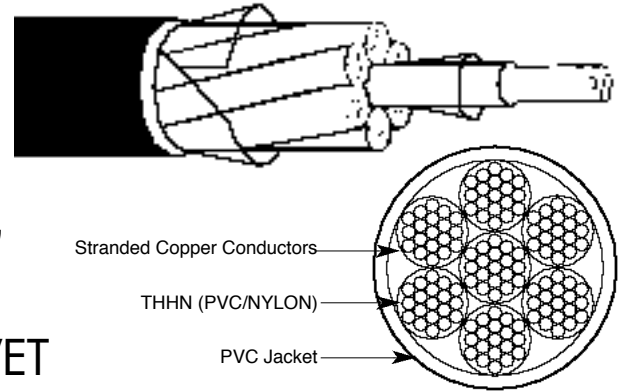




**CONTROL OR INSTRUMENTATION CABLE**  
**INSULATION: HIGH DIELECTRIC PVC**  
**JACKET: PVC, SIZES: 18 - 10 AWG**  
**UL LISTED TYPE TC 600 VOLTS**  
**VW-1 RATED, 90°C DRY, 75°C WET**



**1.0 SCOPE:**

**1.1** This specification covers multiconductor cables having TFFN or VW-1 THHN/ THWN (PVC/Nylon) conductors with an overall polyvinyl chloride (PVC) jacket, conforming to Article 318 "Cable Trays" and Article 340 "Power and Control Cable Type TC" of the 1981 National Electrical Code, and Subject 1277 of Underwriters Laboratories, inc. Meets the requirements of the 70,000 BTU "Cable Tray Propagation Test" per IEEE-383 and shows reserve capabilities by also passing the 210,000 BTU flame test. Rated 600 volts, 90°C dry and 75°C wet.

**1.2 Use:** UL listed and OSHA acceptable. Recognized for use in Class 1, Division 2 hazardous locations and for installation in trays, wireways, troughs, channels, ducts, and conduit. Specifically approved for direct burial, wet or dry locations and outdoors in cable trays where a sunlight resistant rating is required. Designed for control, power, lighting, telemetering, signals and relay or traffic control.

**2.0 CONSTRUCTION:**

**2.1 Conductors:**  
 Bare, soft annealed copper per ASTM B-3 SIZES 18 AND 16 AWG (TFFN)  
 Bunch stranded, class K (.010" #30 strands) ASTM B-174 and UL-62 paragraph 8.1 SIZES 14, 12 AND 10 AWG (THHN/THWN)  
 Concentric stranded, class C (19 strands) ASTM B-8 and UL-83 table 4.1

**2.2 Insulation:**  
 HIGH DIELECTRIC POLYVINYL CHLORIDE  
 UL-83 table 13.1 (THWN 75°C)  
 UL-83 table 14.1 (THHN 90°C)  
 UL-62 part 24 class 12B (TFFN 90°C)

**THICKNESS**

UL-83 table 21.5 for THHN/THWN  
 UL-62 table 5.2 for TFFN

**2.3 Insulation Armor:**

NYLON  
 UL-83 paragraph 35.1 for THHN/THWN  
 UL-62 paragraphs 64.1 and 64.2 for TFFN  
**THICKNESS**  
 UL-83 table 21.5 for THHN/THWN  
 UL-62 paragraph 68.4 for TFFN

**2.4 Cable Assembly:**

Three or more conductors are assembled round with PVC fillers as needed. A tape binder is applied over the assembly. Two conductors are assembled flat parallel (round, with PVC fillers as needed, is available upon request).

**2.5 Overall Jacket:**

Polyvinyl chloride UL-62 part 22 class 12  
 Thickness specified herein

**2.6 Color Code:**

Dual color code ICEA Method 1 using solid colors with stripes in accordance with Table K-2 on one side and a modified ICEA Method 4 using alpha-numerica printing on the other side. (See color code table on back.)

**2.7 Markings:**

Ink print on one side of jacket "(size) AWG Type TC 90°C dry 75°C wet Sunlight Resistant 600V (UL) Direct Burial". Indent print on other side of jacket "(number of conductors)"

**2.8 Construction Options:**

Consult factory for cable specifications with appropriate shields.

3.0 COLOR CODE:

3.1 ICEA Method 1 using solid colors with spiral stripes in accordance with Table K-2.

4.0 CONDUCTOR DATA:

COND. NUMBER	BASE COLOR	SPIRAL STRIPE
1	Black	—
2	Red	—
3	Blue	—
4	Orange	—
5	Yellow	—
6	Brown	—
7	Red	Black
8	Blue	Black
9	Orange	Black
10	Yellow	Black
11	Brown	Black
12	Black	Red

COND. NUMBER	BASE COLOR	SPIRAL STRIPE
13	Blue	Red
14	Orange	Red
15	Yellow	Red
16	Brown	Red
17	Black	Blue
18	Red	Blue
19	Orange	Blue
20	Yellow	Blue
21	Brown	Blue
22	Black	Orange
23	Red	Orange
24	Blue	Orange

COND. NUMBER	BASE COLOR	SPIRAL STRIPE
25	Yellow	Orange
26	Brown	Orange
27	Black	Yellow
28	Red	Yellow
29	Blue	Yellow
30	Orange	Yellow
31	Brown	Yellow
32	Black	Brown
33	Red	Brown
34	Blue	Brown
35	Orange	Brown
36	Yellow	Brown

SIZE (AWG)	STRANDS NO /O.D. (INCHES)	PVC INSUL. (INCHES)	NYLON ARMOR (INCHES)	APPROX. O.D. (INCHES)
18	16/.010	.015	.004	.091
16	26/.010	.015	.004	.103
14	19/.0147	.015	.004	.119
12	19/.0185	.015	.004	.137
10	19/.0234	.020	.004	.171

4.01 PART NUMBER:

TO SPECIFY A SPECIFIC PART NUMBER ADD AWG SIZE, PLUS THE NUMBER OF CONDUCTORS TO THE PART NUMBER. FOR EXAMPLE: 3 CONDUCTORS, 8 AWG IS (P7266D)-8/3.

5.0 CABLE DATA:

NO. OF CONDS.	18 AWG			16 AWG			14 AWG			12 AWG			10 AWG		
	OVERALL JACKET THICKNESS (MILS)	APPROX. OUTSIDE DIAMETER (INCHES)	APPROX. WEIGHT 1000 FT. (POUNDS)	OVERALL JACKET THICKNESS (MILS)	APPROX. OUTSIDE DIAMETER (INCHES)	APPROX. WEIGHT 1000 FT. (POUNDS)	OVERALL JACKET THICKNESS (MILS)	APPROX. OUTSIDE DIAMETER (INCHES)	APPROX. WEIGHT 1000 FT. (POUNDS)	OVERALL JACKET THICKNESS (MILS)	APPROX. OUTSIDE DIAMETER (INCHES)	APPROX. WEIGHT 1000 FT. (POUNDS)	OVERALL JACKET THICKNESS (MILS)	APPROX. OUTSIDE DIAMETER (INCHES)	APPROX. WEIGHT 1000 FT. (POUNDS)
2 FL	.45	.20 x .29	41	.45	.20 x .31	49	.45	.22 x .34	64	.45	.24 x .37	83	.45	.27 x .44	115
2 RD	.45	.29	46	.45	.31	54	.45	.34	71	.45	.37	93	.45	.45	127
3	.45	.30	50	.45	.32	66	.45	.35	87	.45	.39	113	.45	.47	167
4	.45	.32	60	.45	.35	79	.45	.39	107	.45	.43	145	.45	.52	212
5	.45	.35	71	.45	.38	94	.45	.42	129	.45	.47	175	.60	.60	269
6	.45	.38	85	.45	.41	109	.45	.46	147	.45	.51	199	.60	.65	317
7	.45	.38	89	.45	.41	118	.45	.46	162	.45	.51	223	.60	.65	352
8	.45	.40	99	.45	.44	133	.45	.49	184	.60	.58	268	.60	.70	399
9	.45	.43	112	.45	.47	147	.60	.56	221	.60	.62	304	.60	.75	445
10	.45	.45	121	.45	.49	162	.60	.58	237	.60	.65	327	.60	.78	490
11	.45	.46	130	.45	.51	176	.60	.60	257	.60	.67	357	.60	.81	527
12	.45	.47	156	.45	.52	202	.60	.61	281	.60	.68	388	.60	.83	579
13	.45	.49	158	.60	.57	217	.60	.63	293	.60	.71	413	.80	.90	657
14	.45	.50	160	.60	.59	230	.60	.65	316	.60	.73	442	.80	.93	706
15	.45	.52	169	.60	.60	243	.60	.67	340	.60	.75	466	.80	.95	750
16	.60	.56	192	.60	.62	258	.60	.69	356	.60	.77	500	.80	.98	795
17	.60	.57	203	.60	.63	274	.60	.71	375	.60	.80	530	.80	1.01	844
18	.60	.59	214	.60	.65	284	.60	.73	393	.60	.82	558	.80	1.03	893
19	.60	.59	220	.60	.65	296	.60	.73	408	.60	.82	581	.80	1.03	918
20	.60	.60	228	.60	.67	310	.60	.75	424	.80	.88	647	.80	1.06	975
21	.60	.62	239	.60	.68	327	.60	.76	450	.80	.90	680	.80	1.08	1011
22	.60	.63	251	.60	.70	340	.60	.78	469	.80	.92	711	.80	1.12	1058
23	.60	.64	259	.60	.71	353	.60	.80	488	.80	.94	738	.80	1.14	1104
24	.60	.65	268	.60	.72	367	.60	.81	508	.80	.95	768	.80	1.15	1151
25	.60	.66	279	.60	.73	379	.60	.82	526	.80	.97	796	.80	1.17	1204
26	.60	.67	287	.60	.74	391	.80	.88	582	.80	.98	822	.80	1.19	1238
27	.60	.67	298	.60	.75	405	.80	.89	601	.80	.99	850	.80	1.20	1273
28	.60	.69	306	.60	.76	418	.80	.90	621	.80	1.01	880	.80	1.23	1317
29	.60	.69	314	.60	.77	431	.80	.91	640	.80	1.02	907	.80	1.24	1360
30	.60	.71	325	.60	.79	456	.80	.93	666	.80	1.05	938	.80	1.27	1404
31	.60	.71	333	.60	.79	458	.80	.94	679	.80	1.05	964	The data listed above is approximate and subject to normal manufacturing tolerances. Specifications are subject to change without notice.		
32	.60	.72	343	.60	.81	507	.80	.95	698	.80	1.07	992			
33	.60	.74	353	.60	.82	522	.80	.97	718	.80	1.09	1022			
34	.60	.74	361	.60	.83	536	.80	.98	737	.80	1.10	1050			
35	.60	.75	371	.80	.88	549	.80	.99	756	.80	1.11	1077			
36	.60	.77	381	.80	.89	564	.80	1.01	780	.80	1.13	1106			
37	.60	.77	390	.80	.89	580	.80	1.01	794	.80	1.13	1134			