

**PVC INSULATION with Nylon Overall Jacket**  
**Gasoline and Oil Resistant II**  
**MTW / TFFN 90°C • TEWN 105°C**

**UL MTW or TFFN, AWM 1316, 1405, 1452, 1841**  
**CSA TEWN FT1**  
**600 VOLT**

### CHARACTERISTICS

#### Operating Temperature:

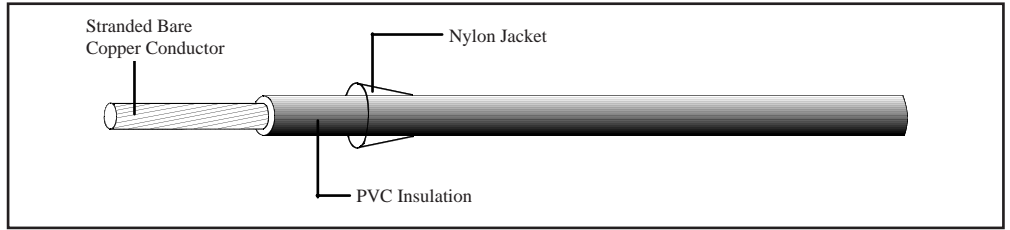
- MTW / TFFN 90°C
- TEWN 105°C

#### Voltage Rating:

- 600 Volt

#### Product Description:

- **Conductor:** Bare, soft annealed copper per ASTM B-3 ASTM B-174 or B-8 and UL-62
- **Insulation:** High dielectric polyvinyl chloride (PVC) UL-62 and UL-1063
- **Overall Jacket:** Nylon UL-62 and UL-1063
- **Cable Identification:** Ink print "(size) AWG Type MTW or TFFN or Gasoline and Oil Resistant II 600V (UL) or AWM Styles 1316-1405-1452-1841—A.I.W. Corp.—CSA TEWN 105°C FT1"  
 Note: "Flexing" may also be marked where applicable.



TFFN / MTW 90°C • TEWN 105°C • 600 Volt • Gasoline and Oil Resistant														
Conductor Size	Stranding No. / O.D. Ø	PVC Insul. Thick.	Nylon Jacket Thick.	Approx. O.D. Ø	Ampacity TFFN <sup>1</sup>	Ampacity MTW <sup>2</sup>	Approx. Weight							
AWG	mm <sup>2</sup>	Inches	mm	Inches	mm	90°C	kg / km							
18	0.816	16/0.0100	16x0.254	0.015	0.381	0.004	0.102	0.088	2.235	6	7	12		
16	1.327	19/0.0177	19x0.297	0.015	0.381	0.004	0.102	0.098	2.489	8	10	18		

<sup>1</sup>Allowable ampacity per Table 402-5 of the 1996 National Electrical Code (NFPA 70-1996).

<sup>2</sup>Allowable ampacity of Type MTW conductors in cable or raceway per Table 13-1(a) of the Electrical Standard for Industrial Machinery, NFPA 79-1994 (ANSI).

### SPECIFICATIONS

#### Cables conform to the following standards:

- UL-62 for TFFN
- UL-1063 for MTW
- Federal Specification J-C-580B
- UL-758 for AWM Styles 1316, 1408, and 1452 (1000 volt) and 1841 including 2500 volt peak -- for electronics use only.
- CSA-C22.2 No. 127 TEWN 105°C



### AVAILABILITY

- 2500 ft (762m), 500 ft\* (152m) put-ups

Color Chart, EDP Numbers and Stock availability 500 ft* (152m) Put-Ups												
AWG	Black	White	Red	Green	Orange	Blue	Violet	Gray	Yellow	Brown	Pink	Grn/Yel
18	112355	111855	112356	100213	100214	111853	100215	100216	100217	100218	100219	—
16	100220	100221	100222	100223	100224	100225	100226	100227	100350	100351	100352	—

**Note:** Please request for availability of non-bold printed and not listed EDP numbers.  
 \*500 ft (152m) put-ups are packed 2000 ft (608m) per carton.

**PVC INSULATION with Nylon Overall Jacket**  
**Gasoline and Oil Resistant II**  
**TFN 90°C • TEWN 105°C**

**UL AWM Styles 1316, 1408, 1452, 1841**  
**CSA TEWN or AWM I A/B FT1**  
**600 VOLT**

### CHARACTERISTICS

#### Operating Temperature:

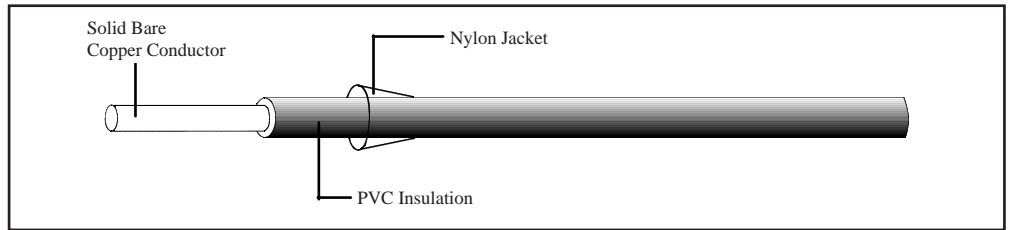
- TFN 90°C
- TEWN 105°C

#### Voltage Rating:

- 600 Volt

#### Product Description:

- **Conductor:** Solid bare, soft annealed copper per ASTM B-3
- **Insulation:** High dielectric polyvinyl chloride (PVC)
- **Overall Jacket:** Clear Nylon
- **Cable Identification:** Ink print  
 "(size) AWG Type TFN Gasoline and Oil Resistant II 600V (UL) or AWM Styles 1316-1408-1452-1841—A.I.W. Corp.—CSA TEWN or AWM I A/B 105°C 600V FT1"



### TFN 90°C • TEWN 105°C • 600 Volt • Gasoline and Oil Resistant

Conductor Size	Stranding No. / O.D. Ø	PVC Insul. Thick.	Nylon Jacket Thick.	Approx. O.D. Ø	Ampacity <sup>1</sup>	Approx. Weight
AWG mm <sup>2</sup>	Inches mm	Inches mm	Inches mm	Inches mm		kg / km
<b>18</b> 0.832	1/0.0403 1x1.024	0.015 0.381	0.005 0.127	0.083 2.108	6	12
<b>16</b> 1.310	1/0.0508 1x1.290	0.015 0.381	0.005 0.127	0.094 2.388	8	16

<sup>1</sup>Allowable ampacity per Table 402-5 of the 1996 National Electrical Code (NFPA 70-1996).

### SPECIFICATIONS

#### Cables conform to the following standards:

- UL-1316, 105°C dry, 80°C in oil, 600 Volt
- UL-1408, 90°C dry, 60°C wet or in oil, 600 Volt
- UL-1452, 90°C dry, 80°C in oil, 1000 Volt
- UL-1841, 105°C dry, 75°C wet, 80°C in oil, 600 Volt
- CSA TEWN or AWM I A/B 105°C 600 Volt FT1



LISTED



Certified

Canadian Standards Association

### AVAILABILITY

- **Size 18:** 2500 ft (762m), 500 ft\* (152m) put-ups - Available in Black, White, Red  
 500 ft\* (152m) put-ups - Available in Purple, Blue, Gray, Yellow, Brown
- **Size 16:** 2500 ft (762m), 500 ft\* (152m) put-ups - Available in Black, White, Red, Green, Orange, Blue, Yellow, Brown  
 500 ft\* (152m) only put-ups - Available in Purple, Gray, Pink

#### Color Chart, EDP Numbers and Stock availability 500 ft\* (152m) Put-Ups

AWG	Black	White	Red	Green	Orange	Blue	Violet	Gray	Yellow	Brown	Pink	Grn/Yel
<b>18</b>	115502	115503	115504	—	—	115505	115506	115507	115508	115509	—	—
<b>16</b>	115510	115511	115512	115513	115514	115515	115516	115517	115518	115519	115520	—

**Note:** Please request for availability of non-bold printed and not listed EDP numbers.  
 \*500 ft (152m) put-ups are packed 2000 ft (608m) per carton.

### PVC INSULATION

UL MTW AWM Styles 1015, 1032, 1230, 1028, 1231, 1283, 1232, 10269 (VW-1), CSA TEW 600 VOLT

MTW • TFF • TW • THW • TEW • AWM

### CHARACTERISTICS

#### Operating Temperature:

- UL MTW 90°C
- UL TFF/TW 60°C
- UL THW 75°C WET or DRY
- AWM 105°C DRY  
60°C WET, VW-1
- CSA TEW 105°C

#### Voltage Rating:

- 600 Volt, 1000 Volt AWM

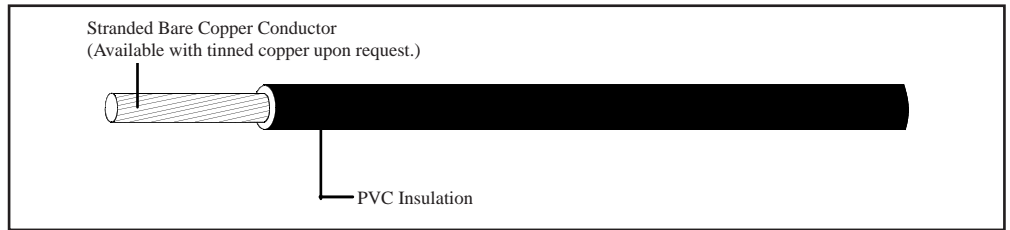
#### Product Description:

##### Conductor:

Stranded bare copper (Available with tinned copper upon request.)

##### Insulation:

Polyvinylchloride (PVC)



#### Type MTW 90°C • TFF 60°C • AWM 105°C • TEW 105°C • VW-1 • 600 Volt

Conductor Size	Stranding No. / O.D. Ø	PVC Insul. Thick.	Approx. O.D. Ø	Std. Colors <sup>1</sup>	AWM Style	Approx. Weight
AWG mm <sup>2</sup>	Inches mm	Inches mm	Inches mm			kg / km
18 0.816	16/0.0100 16x0.254	0.030 0.762	0.108 2.743	A	1015, 1032, 1230, 10269	16
16 1.326	26/0.0100 26x0.254	0.030 0.762	0.120 3.048	A	1015, 1032, 1230, 10269	21

#### Type MTW 90°C • TW 60°C • AWM 105°C • TEW 105°C • VW-1 • 600 Volt

Conductor Size	Stranding No. / O.D. Ø	PVC Insul. Thick.	Approx. O.D. Ø	Std. Colors <sup>1</sup>	AWM Style	Approx. Weight
AWG mm <sup>2</sup>	Inches mm	Inches mm	Inches mm			kg / km
14 2.08	19/0.0147 19x0.373	0.030 0.762	0.132 3.353	A	1015, 1032, 1230, 10269	30
12 3.30	19/0.0185 19x0.470	0.030 0.762	0.151 3.835	B	1015, 1032, 1230, 10269	42
10 5.26	19/0.0234 19x0.594	0.030 0.762	0.174 4.420	C	1015, 1032, 1230, 10269	67
8 8.37	19/0.0295 19x0.749	0.045 1.143	0.234 5.944	C	1015, 1028, 1231, 10269	115

#### Type MTW 90°C • THW 75°C • AWM 105°C • TEW 105°C • VW-1 • 600 Volt

Conductor Size	Stranding No. / O.D. Ø	PVC Insul. Thick.	Approx. O.D. Ø	Std. Colors <sup>1</sup>	AWM Style	Approx. Weight
AWG mm <sup>2</sup>	Inches mm	Inches mm	Inches mm			kg / km
6 13.32	19/0.0372 19x0.945	0.060 1.524	0.301 7.645	D	1015, 1283, 1232, 10269	178
4 21.16	19/0.0469 19x1.191	0.060 1.524	0.348 8.839	D	1015, 1283, 1232, 10269	258
2 33.60	19/0.0591 19x1.501	0.060 1.524	0.407 10.338	D	1015, 1283, 1232, 10269	453

### RATINGS

- **18 & 16 AWG:** UL 600 Volt, 90°C MTW, 60°C TFF, 105°C dry 60°C wet AWM (VW-1), 105°C & 90°C 1000 Volt AWM; CSA 600 Volt, 105°C TEW
- **14, 12 & 10 AWG:** UL 600 Volt, 90°C MTW, 60°C TW, 105°C dry 60°C wet AWM (VW-1), 105°C & 90°C 1000 Volt AWM; CSA 600 Volt, 105°C TEW
- **8 AWG:** UL 600 Volt, 90°C MTW, 60°C TW, 105°C dry 60°C wet; 105°C 1000 Volt AWM (VW-1); CSA 600 V, 105°C TEW
- **6, 4 & 2 AWG:** UL 600 Volt, 90°C MTW, 75°C THW, 60°C oil resistant II, 105°C dry 60°C wet; 105°C 1000 Volt AWM (VW-1); CSA 105°C TEW



### Appliance Wire (AWM) • Machine Tool Wire (MTW) Equipment Wire (TEW) • Fixture Wire (TFF)

UL 90°C MTW • 105°C DRY 60°C WET AWM, VW-1  
CSA TEW 105°C • 600 VOLT  
UL 60°C TFF or TW • UL 75°C WET or DRY THW  
105°C 1000 VOLT AWM

### AVAILABILITY

- **18 to 10 AWG:** 2500 ft (762m), 500 ft\* (152m) put-ups
- **8 to 2 AWG:** 500 ft (152m) put-ups

### STANDARD COLORS

- **A** - Black, White, Red, Green, Orange, Blue, Violet (Purple), Gray, Yellow, Brown
- **B** - Black, White, Red, Green, Blue, Yellow
- **C** - Black, White, Red, Green
- **D** - Black

Color Chart, EDP Numbers and Stock availability 500 ft* (152m) Put-Ups												
AWG	Black	White	Red	Green	Orange	Blue	Violet	Gray	Yellow	Brown	Pink	Grn/Yel
18	102255	102256	102254	102252	102253	102249	104685	104686	102251	102250	112218	—
16	102247	102248	102246	102244	102245	102241	104683	104684	102243	102242	102217	111823
14	105602	107485	107487	107468	107488	107489	107490	107491	107492	107493	112216	111824
12	105651	107478	107482	107469	112211	107483	112212	112213	107484	112214	112215	—
10	105652	107479	107481	107480	115321	112219	115322	115320	112220	115319	—	—
8	102269	102270	102268	102267	—	—	—	—	—	—	—	—
6	102266	—	—	—	—	—	—	—	—	—	—	—
4	102265	—	—	—	—	—	—	—	—	—	—	—
2	102257	—	—	—	—	—	—	—	—	—	—	—

**Note:** Please request for availability of non-bold printed and not listed EDP numbers.  
\*500 ft (152m) put-ups: Sizes 18, 16, 14, and 12 AWG are packed 2000 ft (608m) per carton,  
Sizes 10 and 8 AWG are packed 1000 ft (304m) per carton.  
Barrel Packing (Drum Packing) available upon special request.

**PVC INSULATION with Nylon Overall Jacket**  
**Gasoline and Oil Resistant II**  
**THHN-THWN 90°C • MTW / THHN-THWN 90°C**

**UL THHN-THWN, UL MTW, AWM 1316-1321,**  
**1408-1414, 1452-1453, cUL Listing for Canada**  
**600 VOLT**

### CHARACTERISTICS

#### Operating Temperature:

- MTW / THHN - THWN 90°C
- AWM (1316 - 1321) 105°C

#### Voltage Rating:

- 600 Volt (AWM\* 1000V)

#### Product Description:

- **Conductor:** Bare, soft annealed copper per ASTM B-3
- **Sizes 14 - 10 AWG:**  
Solid, bunched, unilay concentric or compressed stranded (class C) alternate ASTM B-787, ASTM B-3 or ASTM B-8 and UL-83
- **Sizes 8 - 2 AWG:**  
Concentric, compressed stranded (class C) alternate ASTM B-787, ASTM B-8 and UL-83 and UL-1063
- **Sizes 1 AWG - 750 KCMIL:**  
Concentric, compressed stranded (class B) ASTM B-8, UL-83 and UL-1063

- **Insulation:** High dielectric polyvinyl chloride (PVC) UL-83 and UL-1063

- **Overall Jacket:** Nylon UL-83 and UL-1063

#### Cable Identification:

Ink print on jacket

#### Sizes 14 - 10 AWG (solid):

“(size) AWG Type THHN or THWN GAS AND OIL RES II 600V (UL) or AWM VW-1—A.I.W. Corp.—C-UL Type T90 NYLON or TWN 75”

#### Sizes 14 AWG - 750 MCM:

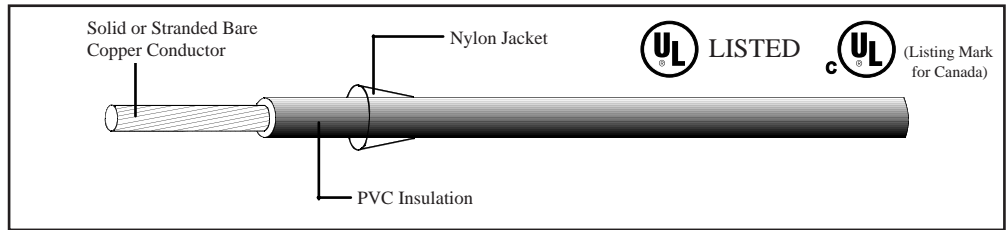
“(size) AWG (or KCMIL) Type MTW or THHN or THWN or GAS AND OIL RES II 600V (UL) or AWM—A.I.W. Corp.—C-UL Type T90 NYLON or TWN 75”

Also “VW-1” and “FT1” on sizes 14 thru 6 AWG and “for CT USE SUN RES” on sizes 1/0 AWG and larger in black.

### RATINGS

Cables conform to the following standards:

- UL-83 for THHN - THWN
- UL-1063 for MTW (stranded conductors only)
- Federal Specification J-C-30B
- NEMA WC-5
- UL-758 for AWM Styles 1316 thru 1321, 1408 thru 1414, 1452 and 1453



### MTW or THHN or THWN or T90 Nylon or TWN 75 • 600V • Gas & Oil Res.

Conductor AWG/MCM	Stranding No. / O.D. Ø	PVC Insul. Thick.	Nylon Jacket Thick.	Approx. O.D. Ø	Ampacity THWN <sup>1</sup> 75°C	Ampacity THHN <sup>1</sup> 90°C	MTW <sup>2</sup>	Approx. Weight kg / km
14	2.08 1 / 0.0641 1 x 1.628	0.015	0.381	0.004 0.102	15	15	—	24
12	3.31 1 / 0.0808 1 x 2.052	0.015	0.381	0.004 0.102	20	20	—	36
10	5.27 1 / 0.1019 1 x 2.588	0.020	0.508	0.004 0.102	30	30	—	57
14	2.08 19/0.0147 19x0.373	0.015	0.381	0.004 0.102	15	15	15	25
12	3.30 19/0.0185 19x0.470	0.015	0.381	0.004 0.102	20	20	20	39
10	5.26 19/0.0234 19x0.594	0.020	0.508	0.004 0.102	30	30	30	60
8	8.37 19/0.0295 19x0.749	0.030	0.762	0.005 0.127	50	55	40	99
6	13.32 19/0.0372 19x0.945	0.030	0.762	0.005 0.127	65	75	55	149
4	21.16 19/0.0469 19x1.191	0.040	1.016	0.006 0.152	85	95	70	237
3	26.62 19/0.0526 19x1.336	0.040	1.016	0.006 0.152	100	110	85	285
2	33.60 19/0.0591 19x1.501	0.040	1.016	0.006 0.152	115	130	95	360
1	42.45 19/0.0664 19x1.687	0.050	1.270	0.007 0.178	130	150	110	455
1/0	53.39 19/0.0745 19x1.892	0.050	1.270	0.007 0.178	150	170	125	563
2/0	67.41 19/0.0837 19x2.126	0.050	1.270	0.007 0.178	175	195	145	699
3/0	85.05 19/0.0940 19x2.388	0.050	1.270	0.007 0.178	200	225	165	868
4/0	107.12 19/0.1055 19x2.680	0.050	1.270	0.007 0.178	230	260	195	1078
250	126.63 37/0.0822 37x2.088	0.060	1.524	0.008 0.203	255	290	215	1284
300	151.78 37/0.0900 37x2.286	0.060	1.524	0.008 0.203	285	320	240	1520
350	177.34 37/0.0973 37x2.471	0.060	1.524	0.008 0.203	310	350	260	1762
400	202.74 37/0.1040 37x2.642	0.060	1.524	0.008 0.203	335	380	280	2004
500	252.94 37/0.1162 37x2.951	0.060	1.524	0.008 0.203	380	430	320	2481
600	304.09 61/0.0992 61x2.520	0.070	1.778	0.009 0.229	420	475	355	2997
750	379.99 61/0.1109 61x2.817	0.070	1.778	0.009 0.229	475	535	400	3729

<sup>1</sup> Allowable ampacity of not more than three conductors in raceway or cable or earth (directly buried), based on ambient temperature of 30°C (86°F), per Table 310-16 of the 1996 National Electrical Code (NFPA 70-1996).

<sup>2</sup> Allowable ampacity of Type MTW conductors in cable or raceway per Table 13-5(a) of the Electrical Standard for Industrial Machinery, NFPA 79-1994 (ANSI).

Type	Oil	Wet	Dry	Voltage
THHN-THWN	75°C	75°C	90°C	600V
MTW	60°C	60°C	90°C	600V
AWM 1316 to 1321	80°C	—	105°C	600V
AWM 1408 to 1414	60°C	60°C	90°C	600V**
AWM 1452 to 1453*	80°C	—	90°C	1000V
T90 Nylon	60°C	—	90°C	600V
TWN 75	—	75°C	—	600V

\*14-10 AWG only.

\*\*14-10 AWG only 2500 volt peak for electronic use only.

### SOLID Conductors - Color Chart, EDP Numbers and Stock availability 500 ft\* (152m) Put-Ups

Size	Black	White	Red	Green	Orange	Blue	Violet	Gray	Yellow	Brown	Pink	Grn/Yel
14	102235	102236	113601	102234	113602	113603	—	—	—	—	—	—
12	102224	102225	113936	102223	113937	113938	—	—	—	—	—	—
10	102215	102216	113939	102214	113940	113941	—	—	—	—	—	—

### STRANDED Conductors - Color Chart, EDP Numbers and Stock availability 500 ft\* (152m) Put-Ups

Size	Black	White	Red	Green	Orange	Blue	Violet	Gray	Yellow	Brown	Pink	Grn/Yel
14	111384	111385	111383	102544	102545	111386	102546	102547	102548	102549	102550	—
12	102551	102552	102553	102554	102555	102556	102557	102558	102559	102560	102561	—
10	111387	102562	102563	102564	102565	102566	102567	102568	102569	102570	102571	—
8	111390	111388	102572	102573	102574	102575	—	—	102576	102577	—	—
6	112207	112208	112209	105657	112205	112210	—	—	112204	112206	—	—
4	113322	113321	113320	105658	—	106207	—	—	—	—	—	—
3	106208	—	—	106209	—	—	—	—	—	—	—	—
2	111391	115325	115324	111835	—	115323	—	—	—	—	—	—
1	105667	—	—	105668	—	—	—	—	—	—	—	—

**Note:** Please request for availability of non-bold printed and not listed EDP numbers.

\*500 ft (152m) put-ups: Sizes 14 and 12 AWG are packed 2000 ft (608m) per carton, Sizes 10 and 8 AWG are packed 1000 ft (304m) per carton. Larger put-ups available upon request.