

MIL-W-16878E TYPE B: 105°C, 600 VOLT  
 UL 1429, CSA: 80°C, 150 VOLT  
 MIL-W-16878E TYPE C: 105°C, 1000 VOLT  
 UL 1430, CSA: 105°C, 300 VOLT

# HOOK-UP WIRE

## IRRADIATED PVC INSULATION

### SOLDER IRON RESISTANT

Irradiated PVC Insulated Hook-Up Wire is exposed to controlled electron beam radiation which results in an insulation far superior to ordinary PVC.

Irradiated PVC withstands higher temperatures than ordinary PVC. Because of its ability to resist solder iron heat, it is the ideal material to use where high reliability is essential and particularly valuable in the wiring of tight, high-density systems.

Irradiated PVC insulation is tougher than ordinary PVC resulting in greatly improved abrasion and cut-through resistance.

### CHARACTERISTICS

#### OPERATING TEMPERATURE:

- -55°C to 105°C – UL AWM 1430
- -55°C to 105°C – UL AWM 3317
- -55°C to 105°C – CSA AWM I A/B FT1
- -55°C to 105°C – MIL-W-16878E
- -55°C to 80°C – UL AWM 1429

#### VOLTAGE RATING:

- 600 Volt (MIL), 150 Volt (UL, CSA)
- 1000 Volt (MIL), 300 Volt (UL, CSA)

#### PRODUCT DESCRIPTION:

- Conductor: Stranded Tinned Copper
- Insulation: Color-Coded, Irradiated PVC (XLPVC)

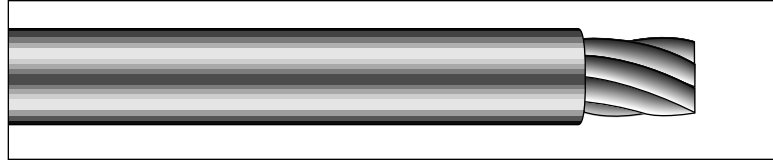
### SPECIFICATIONS

- UL AWM Style 1429
- UL AWM Style 1430
- UL AWM Style 3317
- CSA AWM I A/B FT1
- CSA REW XLPVC FT1
- MIL-W-16878E, Type B
- MIL-W-16878E, Type C

 **Recognized Component**  
 Underwriters Laboratories Inc.  
 **Passes UL VW-1 Flame Test**  
 Underwriters Laboratories Inc.  
 **Certified**  
 Canadian Standards Association

### AVAILABILITY

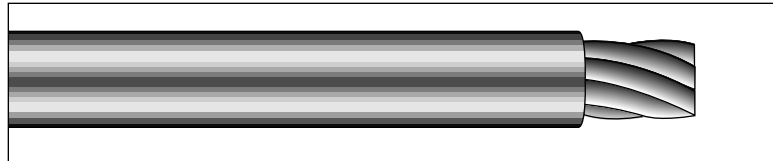
- 100 ft (30,5m), 1000 ft (305m) put-ups



MIL-W-16878E TYPE B: 105°C, 600 VOLT  
 CSA AWM I A/B FT1: 105°C, 150 VOLT  
 UL 1429: 80°C, 150 VOLT

Alpha Part No.	Conductor AWG	Strand	Insul. Thickness		Diameter		Stock Colors*
			Inches	mm	Inches	mm	
7053	26	7/34	0.010	0,25	0.040	1,02	1-10
7054	24	7/32	0.010	0,25	0.045	1,14	1-10
7054/19	24	19/36	0.010	0,25	0.045	1,14	1-10
7055	22	7/30	0.010	0,25	0.051	1,30	1-10
7055/19	22	19/34	0.010	0,25	0.052	1,32	1-10
7056	20	7/28	0.010	0,25	0.059	1,50	1-10
7056/19	20	19/32	0.010	0,25	0.060	1,52	1-10
7057	18	7/26	0.010	0,25	0.070	1,78	1-10
7057/19	18	19/30	0.010	0,25	0.070	1,78	1-10
7058/19	16	19/29	0.010	0,25	0.078	1,98	1-10

\*See color chart below



MIL-W-16878E TYPE C: 105°C, 1000 VOLT  
 UL 1430, CSA REW XLPVC: 105°C, 300 VOLT

Alpha Part No.	Conductor AWG	Strand	Insul. Thickness		Diameter		Stock Colors*
			Inches	mm	Inches	mm	
7130	24	7/32	0.016	0,41	0.056	1,42	1-10,29
7131	22	7/30	0.016	0,41	0.062	1,58	1-10
7132	20	7/28	0.016	0,41	0.070	1,78	1-10
7133	18	7/26	0.016	0,41	0.082	2,08	1-10,29
7134	16	19/29	0.016	0,41	0.092	2,34	1-10,29
7035†	14	19/27	0.016	0,41	0.107	2,72	1-10,29
7036†	12	19/25	0.016	0,41	0.124	3,15	1-10,29

† UL 3317

\*See color chart below



*STOCK COLOR CHART					
1-White	3-Red	5-Yellow	7-Brown	9-Gray	29-Yellow/Green
2-Black	4-Green	6-Blue	8-Orange	10-Violet (purple)	

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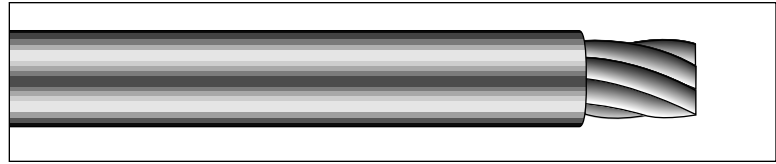
# HOOK-UP WIRE

## IRRADIATED POLYOLEFIN INSULATION

MIL-W-16878E:  
105°C, 600, 1000, 3000 VOLT  
UL, CSA:  
125°C, 150, 300, 600 VOLT

### FLAME RETARDANT

Alpha's irradiated polyolefin insulation provides an ideal solution to many design problems. It is especially suitable for applications where temperatures exceed the capability of PVC, which required the use of costly fluorocarbon insulations. The radiation crosslinking process also improves other environmental characteristics while retaining the excellent electrical properties of polyolefin. This material is highly flame retardant, with a UL VW-1 rating. It is non-meltable, minimizing damage from solder iron contact. There is also greater resistance to abrasion, cut-through, and chemical attack. Alpha irradiated polyolefin conforms to UL and Military standards. It is available in three different wall thickness constructions for a wide range of voltage capabilities.



#### MIL-W-16878E TYPE B: 105°C, 600 VOLT UL 3265, CSA AWM I A/B FT1: 125°C, 150 VOLT

Alpha Part No.	Conductor		Insul. Thickness		Diameter		Stock Colors*
	AWG	Strand	Inches	mm	Inches	mm	
7012	22	19/34	0.010	0,25	0.054	1,37	1,2
7013	20	19/32	0.010	0,25	0.062	1,57	1,2
7014	18	19/30	0.010	0,25	0.072	1,83	1,2

\*See color chart below

#### MIL-W-16878E TYPE C: 105°C, 1000 VOLT UL 3266, CSA CL 1252 XLPE: 125°C, 300 VOLT

Alpha Part No.	Conductor		Insul. Thickness		Diameter		Stock Colors*
	AWG	Strand	Inches	mm	Inches	mm	
7024	22	19/34	0.015	0,38	0.061	1,54	1-3
7025	20	19/32	0.015	0,38	0.069	1,75	1-3
7026	18	19/30	0.015	0,38	0.080	2,03	1-3

\*See color chart below

#### MIL-W-16878E TYPE D: 105°C, 3000 VOLT UL 3271, CSA CL 1251 XLPE: 125°C, 600 VOLT

Alpha Part No.	Conductor		Insul. Thickness		Diameter		Stock Colors*
	AWG	Strand	Inches	mm	Inches	mm	
7044	18	16/30	0.030	0,76	0.109	2,77	1-3
7045	16	26/30	0.030	0,76	0.122	3,10	1-3
7046	14	41/30	0.030	0,76	0.135	3,42	1-3
7047	12	65/30	0.030	0,76	0.153	3,88	1-3
7048	10	105/30	0.030	0,76	0.178	4,52	1-3

\*See color chart below

### CHARACTERISTICS

#### OPERATING TEMPERATURE:

- -55°C to 105°C – MIL-W-16878E
- -55°C to 125°C – (UL, CSA 125°C)

#### VOLTAGE RATING:

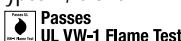
- MIL-W-16878E Type B: 600 Volt  
UL 3265, CSA AWM I A/B FT1: 150 Volt
- MIL-W-16878E Type C: 1000 Volt  
UL 3266, CSA CL 1252 XLPE: 300 Volt
- MIL-W-16878E Type D: 3000 Volt  
UL 3271, CSA CL 1251 XLPE: 600 Volt

#### PRODUCT DESCRIPTION:

- Conductor: Stranded Tinned Copper
- Insulation: Radiation Crosslinked Polyolefin (XLPE)

### SPECIFICATIONS

- UL AWM Style 3265
- UL AWM Style 3266
- UL AWM Style 3271
- CSA AWM I A/B FT1
- CSA CL 1252 XLPE
- CSA CL 1251 XLPE
- MIL-W-16878E, Types B, C and D

 Underwriters Laboratories Inc. Underwriters Laboratories Inc. Canadian Standards Association

### AVAILABILITY

- 7012-7014, 7024-7026  
1000 ft (30,5m) put-ups
- 7044-7048  
100 ft (30,5m), 1000 ft (305m) put-ups

#### \*STOCK COLOR CHART

1-White 2-Black 3-Red



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# HOOK-UP WIRE

## KYNAR\* WIRE WRAP

## TEFZEL\*\* WIRE WRAP

UL 1422, UL 1423: 105°C  
UL 1516, UL 1523: 105°C

### WIRE WRAP

Wire wrapping is an automatic or semi-automatic termination method generally used in large scale wiring of computer backpanels. It involves the helical wrapping of a solid conductor around a rectangular post under controlled tension. Alpha Kynar and Tefzel wire wrap wires are manufactured with silver-plated OFHC† conductors. The presence of even minute amounts of oxygen in copper can reduce conductivity and cause embrittlement when the copper is subjected to physical stress. OFHC copper retains its mechanical and electrical integrity even after subject to the high forces of the wire wrapping process.

Both Kynar and Tefzel exhibit high abrasion, heat and cut-through resistance.



#### UL 1422, UL 1423: KYNAR WIRE WRAP, 125°C

Alpha Part No.	Conductor AWG	Insul. Thickness		Diameter		UL Style	Stock Colors*
		Inches	mm	Inches	mm		
5951	30	0.0045	0,11	0.020	0,51	1423	1-10
5952	28	0.0055	0,14	0.024	0,58	1422	1-10
5953	26	0.0055	0,14	0.027	0,68	1422	1-10
5954	24	0.0045	0,11	0.030	0,76	1423	1-10

\*See color chart below

### CHARACTERISTICS

#### OPERATING TEMPERATURE:

- Kynar Wire Wrap: -40°C to 125°C (UL 105°C)
- Tefzel Wire Wrap: -70°C to 150°C (UL 105°C)

#### PRODUCT DESCRIPTION:

- Conductor: Solid Silver-Plated OFHC‡ Copper
- Insulation:
  - Color-Coded Kynar (Polyvinylidene Fluoride)
  - Color-Coded Tefzel (Ethylene-Tetrafluoroethylene Copolymer)



#### UL 1516, UL 1523: TEFZEL WIRE WRAP, 150°C

Alpha Part No.	Conductor AWG	Insul. Thickness		Diameter		UL Style	Stock Colors*
		Inches	mm	Inches	mm		
1805	30	0.0045	0,11	0.020	0,51	1516	1-10
1806	28	0.0055	0,14	0.024	0,58	1523	1-10
1807	26	0.0055	0,14	0.027	0,69	1523	1-10
1808	24	0.0045	0,11	0.030	0,76	1516	1-10

\*See color chart below

\*Kynar is a registered trademark of ELF Atochem, North America, Inc.

\*\*Registered trademark of E.I. DuPont

‡OFHC-(Oxygen-Free High Conductivity) is a registered trademark of Amax, Inc.

### SPECIFICATIONS

- UL AWM Style 1422
- UL AWM Style 1423
- UL AWM Style 1516
- UL AWM Style 1523



Recognized Component  
Underwriters Laboratories Inc.



Passes  
UL VW-1 Flame Test  
Underwriters Laboratories Inc.

### AVAILABILITY

- Kynar Wire Wrap: 1000 ft (305m) putups
- Tefzel Wire Wrap: 100 ft (30,5m), 1000 ft (305m) put-ups

#### \*STOCK COLOR CHART

1-White	3-Red	5-Yellow	7-Brown	9-Gray
2-Black	4-Green	6-Blue	8-Orange	10-Violet (purple)



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# HOOK-UP WIRE

## TFE TEFLON® INSULATION

MIL-W-16878E (TYPE E)††  
UL 1213  
200°C, 600 VOLT

### CERTIFIED PERFORMANCE - HIGH-RELIABILITY TFE TEFLON® INSULATION

Alpha's TFE Teflon wire family includes a full range of sizes, colors, conductor types and voltage ratings for both commercial (UL styles) and high reliability military OEM products.

Alpha's TFE Teflon is rated for continuous operation in temperatures from -60°C to 200°C and retains its exceptional toughness and flexibility within this range. TFE Teflon is not degraded by chemicals which makes it ideal for use in harsh environments. Teflon is widely regarded as the ultimate high performance wire insulation material for environments characterized by extreme thermal or chemical conditions.

### CHOOSE TFE TEFLON® FOR:

- Resistance To All Chemicals
- High Temperature Use Up To 200°C
- Low Coefficient of Friction
- Outstanding Electrical Properties

### TFE TEFLON® APPLICATIONS:

- Military Harnessing
- Medical Electronics
- Power Supply Lead Wire
- Appliance Wiring

### CHARACTERISTICS

#### OPERATING TEMPERATURE:

- -60°C to 200°C (UL 105°C)

#### VOLTAGE RATING:

- 600 Volt (UL: Voltage Not Specified)

#### PRODUCT DESCRIPTION:

- Conductor: Stranded or Solid Silver-Plated Copper
- Insulation: Color-Coded, Extruded TFE Teflon

### SPECIFICATIONS

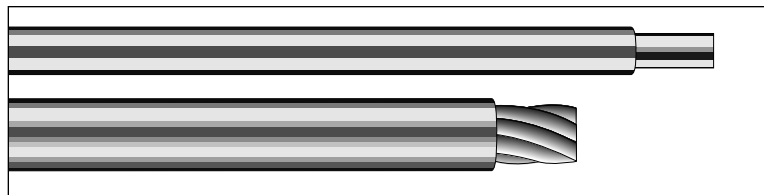
- UL AWM Style 1213
- MIL-W-16878E Type E

 **Recognized Component**  
Underwriters Laboratories Inc.

 **Passes UL VW-1 Flame Test**  
Underwriters Laboratories Inc.

### AVAILABILITY

- 100 ft (30,5m), 1000 ft (305m) put-ups  
1000 ft put-ups may contain multiple lengths



#### STRANDED CONDUCTOR

Alpha Part No.	Type Designation	Conductor AWG	Strand	Insul. Thickness Inches	mm	Diameter Inches	mm	Stock Color*
5851	E-30	30	7/38	0.010	0,25	0.032	0,81	1-10
5852	E-28	28	7/36	0.010	0,25	0.036	0,91	1-10
5853	E-26	26	7/34	0.010	0,25	0.040	1,02	1-10
5853/19	E-26	26	19/38	0.010	0,25	0.041	1,04	1-10
5854	E-24	24	19/36	0.010	0,25	0.045	1,14	1-10
5854/7	E-24	24	7/32	0.010	0,25	0.044	1,12	1-10
5855	E-22	22	19/34	0.010	0,25	0.051	1,30	1-10
5855/7	E-22	22	7/30	0.010	0,25	0.055	1,27	1-10
5856	E-20	20	19/32	0.010	0,25	0.059	1,50	1-10
5856/7	E-20	20	7/28	0.010	0,25	0.058	1,47	1-10
5857	E-18	18	19/30	0.010	0,25	0.070	1,78	1-10
5858	E-16	16	19/29	0.010	0,25	0.077	1,96	1-10
5859†	E-14	14	19/27	0.012	0,30	0.094	2,39	1
5859/12†	E-12	12	19/25	0.012	0,30	0.113	2,87	1
5859/10†	E-10	10	37/26	0.012	0,30	0.134	3,40	1

\*See color chart below

#### SOLID CONDUCTOR

Alpha Part No.	Conductor AWG	Insul. Thickness Inches	mm	Diameter Inches	mm	Stock Color*
2853/1	26	0.010	0,25	0.036	0,91	1-10
2854/1	24	0.010	0,25	0.040	1,02	1-10
2855/1	22	0.010	0,25	0.045	1,14	1-10
2856/1	20	0.010	0,25	0.052	1,32	1-3
2857/1	18	0.010	0,25	0.060	1,52	1-3

\*See color chart below

†Not UL AWM Style 1213

††All product supplied is to the MIL-W-16878 E revision. Revision F product can be supplied upon request, subject to minimum order quantity and lead time requirements.

Teflon® is a registered trademark of E.I. DuPont

#### \*STOCK COLOR CHART

1-White	3-Red	5-Yellow	7-Brown	9-Gray
2-Black	4-Green	6-Blue	8-Orange	10-Violet (purple)



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MIL-W-16878E (TYPE EE)<sup>††</sup>  
 UL 1180  
 200°C, 1000 VOLT

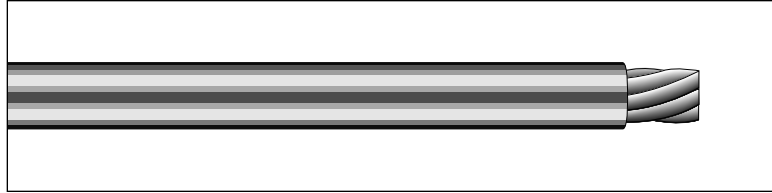
# HOOK-UP WIRE

## TFE TEFLON® INSULATION

### CERTIFIED PERFORMANCE - HIGH-RELIABILITY TFE TEFLON® INSULATION

Alpha's TFE Teflon wire family includes a full range of sizes, colors, conductor types and voltage ratings for both commercial (UL styles) and high reliability military OEM products.

Alpha's TFE Teflon is rated for continuous operation in temperatures from -60°C to 200°C and retains its exceptional toughness and flexibility within this range. TFE Teflon is not degraded by chemicals which makes it ideal for use in harsh environments. Teflon is widely regarded as the ultimate high performance wire insulation material for environments characterized by extreme thermal or chemical conditions.



Alpha Part No.	Type Designation	Conductor AWG	Strand	Insul. Thickness		Diameter		Stock Color*
				Inches	mm	Inches	mm	
5874	EE-24	24	19/36	0.014	0,35	0.052	1,32	1-10
5875	EE-22	22	19/34	0.014	0,35	0.059	1,49	1-10
5876	EE-20	20	19/32	0.014	0,35	0.067	1,70	1-10
5877	EE-18	18	19/30	0.014	0,35	0.078	1,98	1-10
5878	EE-16	16	19/29	0.014	0,35	0.086	2,18	1
5879	EE-14	14	19/27	0.017	0,43	0.105	2,67	1
5879/12	EE-12	12	19/25	0.017	0,43	0.124	3,15	1
5879/10	EE-10	10	37/26	0.017	0,43	0.146	3,70	1
5879/8†	EE-8	8	133/29	0.020	0,50	0.206	5,23	1

### CHOOSE TFE TEFLON® FOR:

- Resistance To All Chemicals
- High Temperature Use Up To 200°C
- Low Coefficient of Friction
- Outstanding Electrical Properties

### TFE TEFLON® APPLICATIONS:

- Military Harnessing
- Medical Electronics
- Power Supply Lead Wire
- Appliance Wiring

### CHARACTERISTICS

#### OPERATING TEMPERATURE:

- -60°C to 200°C

#### VOLTAGE RATING:

- 1000 Volt (MIL), 300 Volt (UL)

#### PRODUCT DESCRIPTION:

- Conductor: Stranded Silver-Plated Copper
- Insulation: Color-Coded, Extruded TFE Teflon

### SPECIFICATIONS

- UL AWM Style 1180
- MIL-W-16878E Type EE

 **Recognized Component**  
 Underwriters Laboratories Inc.

 **Passes UL VW-1 Flame Test**  
 Underwriters Laboratories Inc.

### AVAILABILITY

- 100 ft (30,5m), 1000 ft (305m) put-ups  
 1000 ft put-ups may contain multiple lengths

\*See color chart below

†Not UL AWM 1180 – AWM 1180 requires that 18AWG thru 10AWG have a temperature marker.

††All product supplied is to the MIL-W-16878 E revision. Revision F product can be supplied upon request, subject to minimum order quantity and lead time requirements.

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#### \*STOCK COLOR CHART

1-White	3-Red	5-Yellow	7-Brown	9-Gray
2-Black	4-Green	6-Blue	8-Orange	10-Violet (purple)

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