

# TYPE PHOTOVOLTAIC / USE-2 / RHH / RHW-2 - COPPER CONDUCTOR - 600V & 1KV/2KV

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories Standards UL-44, UL-854, UL-1581, UL 2556, UL-4703; UL 1685 (70,000 Btu/hr) Flame Test (1/0 AWG and larger); NEMA WC70/ICEA S-95-658; NFPA 70 (NEC®) Article 690; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; VW-1 optional; IEEE 1202/FT4 Optional; UL Listing #E-326525



## CONSTRUCTION

### Conductors

Stranded conductors, uncoated copper per ASTM-B8 and ASTM-B787

### Insulation

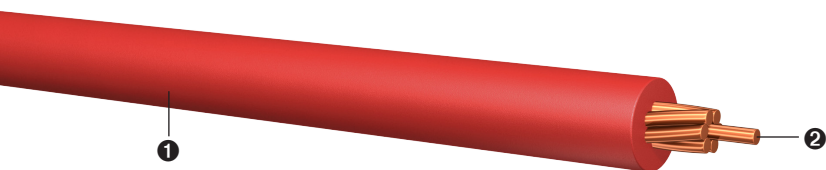
Cross-linked polyethylene (XLPE) insulation per UL-854, UL-4703, UL-44

## APPLICATIONS

Type Photovoltaic copper conductors are suitable for outdoor rooftop applications without raceways and for use in raceways installed underground in wet locations, and where condensation and moisture accumulations within the raceway do not exceed 90°C. Applications requiring direct burial is permitted for Type Photovoltaic per UL-854. Applications requiring type Photovoltaic conductor, temperatures shall not exceed 90°C in wet or dry locations. Type USE-2 is permitted for 600-volt applications only.

## FEATURES

Available in 600V and 1000V/2000V. Insulation compounds are rated for flame and sunlight-resistance in all sizes and colors. PV Source and Output conductors that are listed and labeled as Photovoltaic (PV) wire, of any size, are permitted in cable trays located outdoors when installed in accordance with National Electrical Code (NEC) 690.31(C)(2). Complies with Flexibility at Low Temperatures and Cold Impact tests at -40°C.



- 1 XLPE Insulation
- 2 Stranded Copper Conductor

Size (AWG or KCMIL)	No. of Strands	Insulation Thickness XLPE (in)		Outside Diameter		Allowable Ampacity (Amps) <sup>1</sup>	Approximate Net Weight (lbs/1000 ft)	Approximate Area (in <sup>2</sup> )	Standard Packaging (ft)
		1000V/2000V		1000V/2000V					
		(mm)	(in)	(mm)	(in)				
14	19	1.91	0.075	5.61	0.221	25	28	0.0384	500' 1000' 2500' Reels
12	19	1.91	0.075	6.10	0.240	30	38	0.0445	500' 1000' 2500' Reels
10	19	1.91	0.075	6.68	0.263	40	49	0.0531	500' 2500' Reels
8	7	2.16	0.085	8.03	0.316	55	78	0.0769	500' 1000' 2500' 5000' Reels
6	7	2.16	0.085	8.99	0.354	75	113	0.0957	500' 1000' 2500' 5000' Reels
4	7	2.16	0.085	10.21	0.402	95	166	0.1232	500' 1000' 2500' 5000' Reels
3	7	2.16	0.085	10.92	0.430	115	203	0.1412	500' 1000' 2500' 5000' Reels
2	7	2.16	0.085	11.73	0.462	130	249	0.1633	500' 1000' 2500' 5000' Reels
1	19	2.67	0.105	13.49	0.531	145	320	0.2215	500' 1000' 2500' 5000' Reels
1/0	19	2.67	0.105	14.48	0.570	170	389	0.2552	500' 1000' 2500' 5000' Reels
2/0	19	2.67	0.105	15.60	0.614	195	484	0.2961	500' 1000' 2500' 5000' Reels
3/0	19	2.67	0.105	16.87	0.664	225	599	0.3463	500' 1000' 2500' 5000' Reels
4/0	19	2.67	0.105	18.29	0.720	260	742	0.4072	500' 1000' 2500' 5000' Reels
250	37	3.05	0.120	19.86	0.782	290	884	0.4803	500' 1000' 2500' 4000' Reels
300	37	3.05	0.120	21.18	0.834	320	1047	0.5463	500' 1000' 3500' Reels
350	37	3.05	0.120	22.38	0.881	350	1210	0.6096	500' 1000' 3000' Reels
400	37	3.05	0.120	23.50	0.925	380	1371	0.6720	500' 1000' 3000' Reels
500	37	3.05	0.120	25.55	1.006	430	1694	0.7949	500' 1000' 2500' Reels
600	61	3.43	0.135	29.54	1.163	475	2073	1.0623	500' 1000' 2000' Reels
750	61	3.43	0.135	32.21	1.268	535	2525	1.2628	500' 1000' 1500' Reels
1000	61	3.43	0.135	36.12	1.422	615	3322	1.5881	500' 1000' Reels

600V

10	19	1.52	0.060	5.92	0.233	40	47	0.0437	500' 2500' Reels
----	----	------	-------	------	-------	----	----	--------	------------------

<sup>1</sup> Ampacity of conductors are based on NFPA 70 (NEC) Table 310.15(B)(16) at 90C. See 110.14(C), 240.4(D) and 310.15(B) for other limitations where applicable.

When the neutral is considered current-carrying conductor, the ampacity of four or more current carrying conductors shall be reduced by the as specified in NEC Table 310.15(B)(3)(a).

The above data is approximate and subject to normal manufacturing tolerances.

### 600V PRINT LEGEND:

14 AWG THROUGH 1 AWG: ENCORE\*WIRE\*CORP\*(SIZE)\*TYPE\*PHOTOVOLTAIC\*WIRE\*600V\*OR\*USE-2\*600V\*OR\*RHH\*OR\*RHW\*OR\*RHW-2\*600V/1000V\*GR2\*DIR-BUR\*90C\*WET\*OR\*DRY\*SUN-RES\*-40C\*XLPE\*(UL)\*DATE\*TIME\*OPERATOR\*QC

1/0 AWG THROUGH 1000 KCMIL: ENCORE\*WIRE\*CORP\*(SIZE)\*TYPE\*PHOTOVOLTAIC\*WIRE\*600V\*OR\*USE-2\*600V\*OR\*RHH\*OR\*RHW\*OR\*RHW-2\*600V/1000V\*GR2\*DIR-BUR\*90C\*WET\*OR\*DRY\*FOR\*CT\*USE\*SUN-RES\*-40C\*XLPE\*(UL)\*DATE\*TIME\*OPERATOR\*QC

### 1KV/2KV PRINT LEGEND:

14 AWG THROUGH 1 AWG: ENCORE\*WIRE\*CORP\*(SIZE)\*TYPE\*PHOTOVOLTAIC\*WIRE\*2000V\*OR\*USE-2\*600V\*OR\*RHH\*OR\*RHW\*OR\*RHW-2\*600V/1000V\*GR2\*DIR-BUR\*90C\*WET\*OR\*DRY\*SUN-RES\*-40C\*XLPE\*(UL)\*DATE\*TIME\*OPERATOR\*QC

1/0 AWG THROUGH 1000 KCMIL: ENCORE\*WIRE\*CORP\*(SIZE)\*TYPE\*PHOTOVOLTAIC\*WIRE\*2000V\*OR\*USE-2\*600V\*OR\*RHH\*OR\*RHW\*OR\*RHW-2\*600V/1000V\*GR2\*DIR-BUR\*90C\*WET\*OR\*DRY\*FOR\*CT\*USE\*SUN-RES\*-40C\*XLPE\*(UL)\*DATE\*TIME\*OPERATOR\*QC

### Standard Conductor Colors\*

Black, White, Red, Yellow, Green  
Brown\*\*, Orange\*\*, Gray\*\*

\*Not available in striping  
\*\*Minimum runs on request.  
Contact local Sales Rep.