

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

Patents: [encorewire.com/patents](http://encorewire.com/patents)



## 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; UL Listing #E-326525

## CONSTRUCTION

### Conductors

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

### Insulation

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

## APPLICATIONS

Type Photovoltaic building wire is suitable for outdoor rooftop applications without conduit or raceways and for use in raceways installed underground in wet locations where condensation and moisture accumulations within the raceway do not exceed 90°C. Photovoltaic wire is rated to 90°C in dry locations. When installed in accordance with NEC Section 690.31(C)(2), PV Source and PV Output, single-conductor cable of all sizes, can be installed in outdoor Cable Trays, where applicable. Type USE-2 is permitted for 600-volt applications only. Type RHH/RHW-2 is permitted for applications up to 1000 volts..

## FEATURES

Available in 600V and 1000V/2000V. Insulation compound is rated sunlight-resistant in all sizes and colors. Photovoltaic conductors of 1/0 and larger are rated for CT use. May be used for direct burial per UL-854 and UL-4703. Complies with Flexibility at Low Temperatures and Cold Impact tests at -40°C. 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
8	49	2.20	0.087	8.03	0.317	55	82	0.0788	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
<b>600V</b>									
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 MACHINE  
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 MACHINE

### 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 MACHINE  
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 MACHINE

### Standard Conductor Colors\*

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

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

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