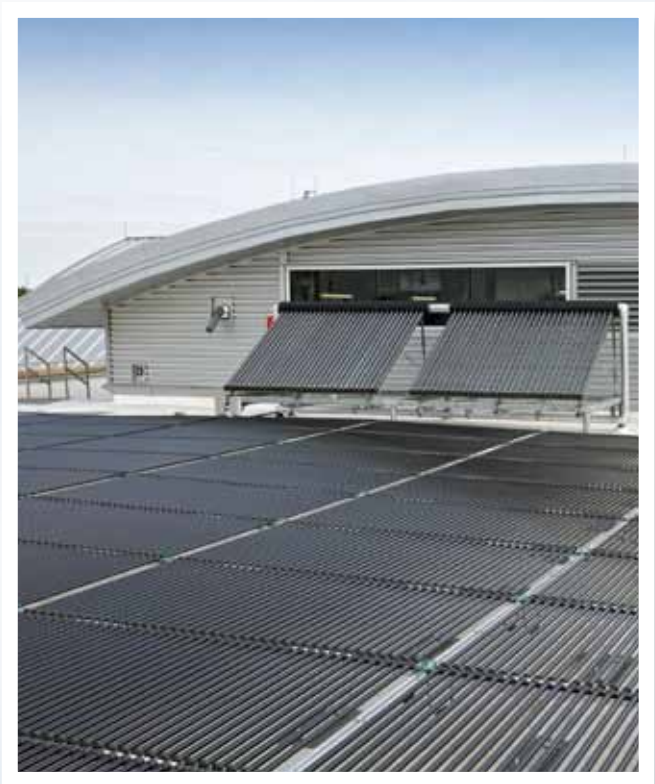
ENCORE WIRE CORPORATION

RENEWABLE ENERGY

SmartSun™ Photovoltaic (PV)

Encore Wire offers a complete line of USE-2 style Photovoltaic (PV) products per UL-4703. PV wire is sunlight-resistant in all sizes and colors and carries a VW-1 flame rating, PV products comply with standards such as IEEE 1202/UL 1685-FT4 Flame Test, NEMC WC70/ICEA S-95-658, UL-854 and UL-4703. While this product is suitable for outdoor rooftop applications without conduit, it is also suitable for use in conduits and raceways installed underground and in conduit in wet conditions where condensation and moisture accumulations within the conduit do not exceed 90°C. Our PV products are RoHS compliant and are great for wind energy applications such as power distribution in wind turbines, transformers and generators.



pictured above: Water Heating Tubes on the roof of Encore's newest building, The Research and Development Center, powered by our own photovoltaic wire

USAGE

1. PV wire is solely used for interconnecting PV modules, and was developed to be able to handle 90°C in wet and dry conditions.
2. Both can be UL rated at 600 volts; however, PV wire can also be rated at 1000 volts or 2000 volts if needed.

TESTING

- Encore's photovoltaic products are made according to Underwriters Laboratories Standard 4703.
- Our PV products are made in the allowed "USE-2 Style" with a single layer of XLPE insulation.
- Encore's PV products pass UL's required 720 hour sunlight resistance test; our PV wire carries this sunlight resistance rating in all sizes and colors.
- UL certified PV wire is available in sizes 16 AWG through 4/0 AWG as allowed by UL4703. For larger sizes, USE-2 is often substituted.

GROWING MARKETS

Arizona, Nevada, California, Colorado, New Mexico, Connecticut, Maryland, Pennsylvania, Massachusetts, New Jersey, New York, and Oregon

1329 Millwood Road • P.O. Box 1149 • McKinney, TX 75069
800.962.9473 www.encorewire.com

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Soft-Drawn Annealed Bare Copper Conductors

Encore Wire's Soft-Drawn Annealed Bare Copper Conductors are used in overhead electrical transmission and distribution systems, where high-conductivity and flexibility are required for equipment and circuit grounding. More specifically, Encore Wire's Soft-Drawn Annealed Bare Copper Conductors are utilized for step-up substation applications in wind energy projects.

Scrap Purchase Program

Encore Wire's Scrap Recycling Program allows us to minimize our impact on the environment for the betterment of our customers, their families, and the communities in which they live.

For more information, please contact your Encore Wire sales representative.

XHHW-2 / RW90 Copper Conductor

ENCORE WIRE RoHS COMPLIANT

Type XHHW-2 / RW90 building wire is intended for general purpose applications utilized in conduit or other recognized raceways for services, feeders and branch-circuit wiring, as specified in the National Electrical Code (NEC). Type XHHW-2 / RW90 insulation compound is rated sunlight-resistant in all colors. All cables comply with UL's VW-1 (Vertical-Wire) Flame Test and the IEEE 1202/UL FT4 Flame Test. Type XHHW-2/RW90 is permitted to be used in wet or dry locations at temperatures not to exceed 90ºC.

ENCORE WIRE RoHS COMPLIANT

Tray Cable

Encore Wire offers Tray Cable in sizes 16 AWG through 750-4 conductor with both XHHW and THHN/THWN-2 inner conductors. All Encore Wire Tray Cable is manufactured with a tough and reliable heat- and moisture-resistant PVC outer jacket. This PVC jacket is abrasion-, oil-, and chemical-resistant, as well as highly flame retardant to meet the UL-1277 standard. This product is approved for direct burial in wet or dry locations, outdoors, as well as in cable trays where sunlight-resistance is required, and specifically for controllers, high speed shafts, breaks and instrumentation circuits in wind turbines.

Encore Wire also provides:

- THHN/THWN-2 Copper Conductors
- Metal-Clad Cable - 14 AWG through 750-4 conductor
- Metal-Clad with PVC Jacketing in sizes 14 AWG through 750-4 conductor
- Aluminum Conductor Products
- Flexible Cord Products

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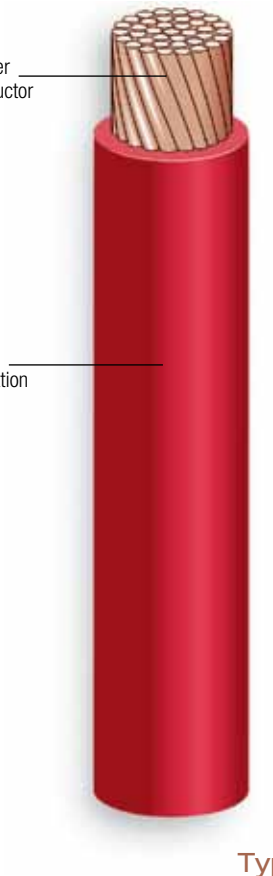
TYPE PHOTOVOLTAIC COPPER CONDUCTOR 600V AND 1000V/2000V



ENGINEERING SPECIFICATIONS:

Listed E-326525

Standards:

Underwriters Laboratories Standards UL-4703, UL-854
UL 1685-FT4/IEEE 1202 (70,000 Btu/hr) Flame Test (1/0 AWG and larger)
ICEA T-29-520 (210,000 Btu/hr) Flame Test
NEMA WC70/ICEA S-95-658
NFPA 70: National Electrical Code (NEC)
ARRA 2009; Section 1605 "Buy American" Compliant

CONSTRUCTION:

Conductors:

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

Insulation:

Cross-linked polyethylene (XLPE) insulation per UL-854

Applications:

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

Features:

Available in 600V and 1000V/2000V. All cables comply with UL's VW-1 (Vertical Wire) Flame Test. Insulation compounds are rated for flame and sunlight-resistance in all sizes and colors. Photovoltaic conductors of 1/0 through 1000 KCMIL are rated for CT use. Sequential foot markings located every foot on master reeds only for 1 AWG through 1000 KCMIL unless otherwise specified. RoHS compliant. Flexibility at Low Temperature Test. Carries -40˚C rating.

Type Photovoltaic Copper Conductor 600V and 1000V/2000V

Size AWG	Number of Strands		Insulation Thickness XLPE (in)		Outside Diameter				Allowable Ampacity (Amps)**		Approximate Net Weight (lbs/1000 ft)		Standard Packaging (ft)	
					600V		1000V / 2000V							
	600V	1000V 2000V	600V	1000V 2000V	(mm)	(in)	(mm)	(in)	600V	1000V 2000V	600V	1000V 2000V	600V	1000V / 2000V
18	16	16	0.060	0.075	4.19	0.165	5.00	0.197	8	8	15	18	1000' carton (2x500) 2500' reels	1000' carton (2x500) 2500' reels
16	26	26	0.060	0.075	4.51	0.178	5.31	0.209	8	8	18	22	1000' carton (2x500) 2500' reels	1000' carton (2x500) 2500' reels
14	19	19	0.060	0.075	4.89	0.193	5.61	0.221	25†	25†	24	28	500' 1000' 2500' reels	500' 1000' 2500' reels
12	19	19	0.060	0.075	5.37	0.212	6.05	0.238	30†	30†	33	38	500' 1000' 2500' reels	500' 1000' 2500' reels
10	19	19	0.060	0.075	5.99	0.236	6.60	0.260	40†	40†	47	52	500' 2500' reels	500' 2500' reels
8	7*	7*	0.075	0.085	7.52	0.296	7.95	0.313	55	55	74	78	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
6	7*	7*	0.075	0.085	8.48	0.334	8.86	0.349	75	75	108	113	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
4	7*	7*	0.075	0.085	9.70	0.382	10.06	0.396	95	95	161	166	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
3	7*	7*	0.075	0.085	10.41	0.410	10.77	0.424	110	110	197	203	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
2	7*	7*	0.075	0.085	11.23	0.442	11.58	0.456	130	130	243	249	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
1	19	19	0.095	0.105	13.16	0.518	13.49	0.531	150	150	313	320	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
1/0	19	19	0.095	0.105	13.97	0.550	14.48	0.570	170	170	380	389	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
2/0	19	19	0.095	0.105	15.09	0.594	15.60	0.614	195	195	476	484	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
3/0	19	19	0.095	0.105	16.36	0.644	16.87	0.664	225	225	590	599	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
4/0	19	19	0.095	0.105	17.78	0.700	18.29	0.720	260	260	732	742	500' 1000' 2500' 5000' reels	500' 1000' 2500' 5000' reels
250	37	37	0.110	0.120	19.35	0.762	19.86	0.782	290	290	873	884	500' 1000' 2500' 4000' Reels	500' 1000' 2500' 4000' Reels
300	37	37	0.110	0.120	20.67	0.814	21.18	0.834	320	320	1035	1047	500' 1000' 3500' Reels	500' 1000' 3500' Reels
350	37	37	0.110	0.120	21.87	0.861	22.38	0.881	350	350	1198	1210	500' 1000' 3000' Reels	500' 1000' 3000' Reels
400	37	37	0.110	0.120	22.99	0.905	23.50	0.925	380	380	1358	1371	500' 1000' 3000' Reels	500' 1000' 3000' Reels
500	37	37	0.110	0.120	25.04	0.986	25.55	1.006	430	430	1680	1694	500' 1000' 2500' Reels	500' 1000' 2500' Reels
600	61	61	0.125	0.135	29.03	1.143	29.54	1.163	475	475	2057	2073	500' 1000' 2000' Reels	500' 1000' 2000' Reels
750	61	61	0.125	0.135	31.70	1.248	32.21	1.268	535	535	2508	2525	500' 1000' 1500' Reels	500' 1000' 1500' Reels
1000	61	61	0.125	0.135	35.61	1.402	36.12	1.422	615	615	3303	3322	500' 1000' Reels	500' 1000' Reels

* 8 AWG - 2 AWG: 19/w is available upon request.
**Allowable ampacities per NEC 310.150(B)(16) for 90℃. †For overcurrent protection amperages, consult NEC 240.4(D).

PRINT LEGEND: 600V
18 AWG THROUGH 1 AWG: ENCORE WIRE CORPORATION *(SIZE)*TYPE*PHOTOVOLTAIC WIRE* 90C*WET*OR*DRY*SUN*RES*-40C*600V*XLPE*(UL)*DATE*TIME*OPERATOR*QC
1/0 AWG THROUGH 1000 KCMIL: ENCORE WIRE CORPORATION*(SIZE)*TYPE*PHOTOVOLTAIC WIRE* 90C*WET*OR*DRY*SUN*RES*-40C*600V*XLPE*(UL)*FOR*CT*USE*DATE*TIME*OPERATOR*QC

PRINT LEGEND: 1000V/2000V
18 AWG THROUGH 1 AWG: ENCORE WIRE CORPORATION*(SIZE)*TYPE*PHOTOVOLTAIC WIRE* 90C*WET*OR*DRY*SUN*RES*-40C*2000V*XLPE*(UL)*DATE*TIME*OPERATOR*QC
1/0 AWG THROUGH 1000 KCMIL: ENCORE WIRE CORPORATION*(SIZE)*TYPE*PHOTOVOLTAIC WIRE* 90C*WET*OR*DRY*SUN*RES*-40C*2000V*XLPE*(UL)*FOR*CT*USE*DATE*TIME*OPERATOR*QC