

# EmPowr<sup>®</sup> Link MV-90 Underground Distribution Wind Farm Power Cable

**BICC**<sup>®</sup>  
B R A N D

In virtually every region of the world, increasing demand for energy is accelerating investment in exploration, extraction, power generation, transmission and distribution — whether based on coal, natural gas, oil, nuclear, water or wind. General Cable is meeting this growing need with a complete range of specialized products and technical expertise.

General Cable has been working with wind farm contractors, developers and wind turbine manufacturers to deliver clean, renewable power from the beginning of the wind power industry more than 20 years ago. We have been a key supplier to the global wind farm market, supporting major projects in Europe, Asia and North America with material supply, material development and engineering resources.



## Product Construction:

### Complete Cable:

Cross-linked semi-conducting conductor shield, insulation and semi-conducting insulation shield are extruded over an aluminum conductor in a single operation. Helically applied, solid bare copper wires and black extruded jacket with a red stripe are applied over the cable core. The completed cable is a BIFILL<sup>®</sup> water-blocked construction, which includes a water-blocked conductor and cable core/jacket tested in accordance with ICEA T-34-664.

### Conductor: (A)

Solid or Class B compressed concentric lay stranded 1350 aluminum meeting the requirements of ANSI/ICEA S-94-649.

### Conductor Shield: (B)

Extruded semi-conducting thermosetting polymeric stress control layer.

### Insulation: (C)

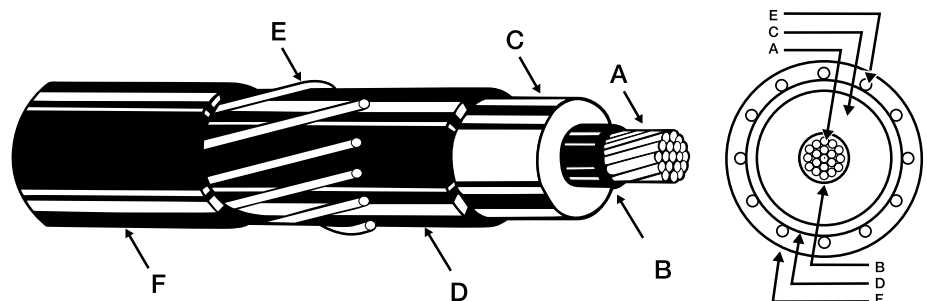
Extruded, unfilled Tree-Retardant Cross-Linked Polyethylene (TRXLPE) as defined in ANSI/ICEA S-94-649 — 100% insulation level.

### Insulation Shield: (D)

Extruded semi-conducting thermosetting layer, clean- and free-stripping from insulation.

### Concentric Neutral: (E)

Helically applied, annealed, solid bare copper wires.



### Jacket: (F)

Black, non-conducting, Linear Low-Density Polyethylene (LLDPE) extruded to fill spaces between neutral wires and extruded with red stripe.

### Features and Benefits:

- Triple extruded for clean interfaces
- Dry nitrogen cure for enhanced performance
- Class 10,000 environment utilized for material handling
- Excellent moisture resistance
- High dielectric strength
- Low dielectric loss
- Excellent resistance to treeing
- Clean-stripping insulation shield

### Insulation Temperature Rating:

- Normal 90°C
- Emergency\* 130°C
- Short Circuit 250°C

\*Operation at the emergency overload temperature shall not exceed 1500 hours cumulative during the lifetime of the cable.

### Specifications:

General Cable BICC<sup>®</sup> Brand Utility products meet the latest requirements of ANSI/ICEA S-94-649, AEIC CS8, UL 1072 and ICEA T-34-664 as applicable for TRXLPE insulated concentric neutral cable.

### Applications:

EmPowr<sup>®</sup> Link cables are intended for use in wet or dry locations for distribution of single or three phase medium-voltage power. These cables may be installed in ducts or direct buried.

### Options:

- EmPowr<sup>®</sup> Fill — EPR insulated cable
- Copper conductors
- UltraPowr<sup>™</sup> super-smooth semi-conducting conductor shield
- Overlaying PVC jacket with separator tape
- 3X 1/C triplex or parallel
- CSA certified
- EmPowr<sup>®</sup> Link CL<sup>™</sup> UL MV-105 with XLPE Jacket

 **General Cable**  
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# EmPowr® Link MV-90 Underground Distribution Cable 35 kV

## Al Conductor TRXLPE Insulation Concentric Neutral LLDPE Jacket

### UNDERGROUND DISTRIBUTION CABLE – 35 kV – TYPE URD – CONCENTRIC NEUTRAL

COMPRESSED CONDUCTOR CLASS B STRAND (A)			NEUTRAL CONFIGURATION (E)			DIAMETER (1) (INCHES)			NOM. JACKET THKN. (IN) (1)	APPROXIMATE WEIGHT LB/1000 FT			AMPACITY (2)		
AL. AWG or kcmil	NOM. COND. DIA. (IN)	NO. OF WIRES	NEUT. SIZE	NO. OF WIRES	WIRE SIZE AWG	MIN. INS. O.D. (C)	MAX. INS. O.D. (C)	NOM. JACKET O.D. (F)	ENCAP LLDPE JACKET (F)	AL. COND.	CU. NEUT. WIRES	TOTAL	DIRECT BURIED		BURIED IN DUCT (4)
													FLAT (3)	TREFOIL	

#### 345 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL

1/0	0.362	19	Full	16	14	1.045	1.145	1.404	0.055	99	214	902	245	230	174
1/0	0.362	19	2/3	11	14	1.045	1.145	1.404	0.055	99	147	842	245	230	174
1/0	0.362	19	1/2	8	14	1.045	1.145	1.404	0.055	99	107	806	250	230	174
1/0	0.362	19	1/3	6	14	1.045	1.145	1.404	0.055	99	80	782	250	230	174
3/0	0.456	19	Full	16	12	1.140	1.240	1.532	0.055	158	339	1174	310	300	229
3/0	0.456	19	2/3	17	14	1.140	1.240	1.498	0.055	158	227	1041	315	300	229
3/0	0.456	19	1/2	13	14	1.140	1.240	1.498	0.055	158	174	994	315	300	229
3/0	0.456	19	1/3	9	14	1.140	1.240	1.498	0.055	158	120	946	320	300	229
4/0	0.512	19	Full	20	12	1.195	1.295	1.588	0.055	199	423	1334	350	340	262
4/0	0.512	19	2/3	21	14	1.195	1.295	1.554	0.055	199	280	1172	355	340	262
4/0	0.512	19	1/2	16	14	1.195	1.295	1.554	0.055	199	214	1112	355	340	262
4/0	0.512	19	1/3	11	14	1.195	1.295	1.554	0.055	199	147	1052	360	340	263
350	0.661	37	2/3	22	12	1.355	1.455	1.797	0.080	329	466	1686	440	445	352
350	0.661	37	1/2	17	12	1.355	1.455	1.797	0.080	329	360	1592	445	445	353
350	0.661	37	1/3	18	14	1.355	1.455	1.763	0.080	329	240	1446	455	450	354
350	0.661	37	1/6	9	14	1.355	1.455	1.763	0.080	329	120	1339	475	450	356
500	0.789	37	2/3	20	10	1.480	1.580	1.967	0.080	468	673	2170	505	535	427
500	0.789	37	1/2	24	12	1.480	1.580	1.925	0.080	468	508	1971	510	540	428
500	0.789	37	1/3	16	12	1.480	1.580	1.925	0.080	468	339	1820	525	545	432
500	0.789	37	1/6	13	14	1.480	1.580	1.891	0.080	468	174	1630	555	545	435
750	0.968	61	1/2	23	10	1.670	1.770	2.184	0.080	703	774	2718	585	655	532
750	0.968	61	1/3	24	12	1.670	1.770	2.142	0.080	703	508	2423	595	665	539
750	0.968	61	1/6	19	14	1.670	1.770	2.108	0.080	703	254	2149	645	675	548
1000	1.117	61	1/2	30	10	1.815	1.920	2.333	0.080	937	1010	3304	650	740	609
1000	1.117	61	1/3	20	10	1.815	1.920	2.333	0.080	937	673	3002	645	755	624
1000	1.117	61	1/6	16	12	1.815	1.920	2.291	0.080	937	339	2642	695	775	642
1250	1.251	91	1/3	25	10	1.960	2.065	2.481	0.080	1172	842	3539	690	825	687
1250	1.251	91	1/6	20	12	1.960	2.065	2.439	0.080	1172	424	3100	730	855	715
1250	1.251	91	1/12	16	14	1.960	2.065	2.405	0.080	1172	214	2859	815	880	733
1500	1.370	91	1/3	24	9	2.100	2.205	2.625	0.080	1406	1018	3975	730	875	730
1500	1.370	91	1/6	24	12	2.100	2.205	2.558	0.080	1406	509	3409	750	920	767
1500	1.370	91	1/12	19	14	2.100	2.205	2.524	0.080	1406	254	3126	845	950	793

(1) Extruded layer thicknesses and insulation and insulation shield diameters are in accordance with ANSI/CEA S-94-649 for concentric neutral cables rated 5-46 kV and also meet the requirements of the latest revisions of AIEC CS8. Dimensions and weights not designated as minimum or maximum are nominal values and are subject to manufacturing tolerances.

(2) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temperature, 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values are based on one three-phase circuit, one conductor per phase, with neutral wires bonded at each end.

(3) Cables buried in flat adjacent configuration with 7.5" spacing between conductors.

(4) Cables trefoil in a single duct; duct size is based on 40% fill.



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