

EmPowr® Link Underground Distribution Cable 15-35 kV

Al Conductor TRXLPE Insulation Concentric Neutral LLDPE Jacket



Product Construction:

Complete Cable:

Lead-free cross-linked semi-conducting conductor shield, insulation and semi-conducting insulation shield are extruded over a solid or stranded aluminum conductor and cured in a single operation. Uncoated copper neutral wires (helically applied) and extruded-to-fill black jacket are applied over the cable core. These products meet the latest requirements of ANSI/ICEA S-94-649, AEIC CS8 and RUS U1 as applicable for Tree-Retardant Cross-linked Polyethylene (TRXLPE) insulated concentric neutral cable.

Conductor:

Solid or Class B compressed concentric lay stranded 1350 aluminum.

Conductor Shield:

Extruded lead-free semi-conducting thermosetting polymeric stress control layer.

Insulation:

Extruded, unfilled, lead-free Tree-Retardant Cross-linked Polyethylene (TRXLPE).

Insulation Shield:

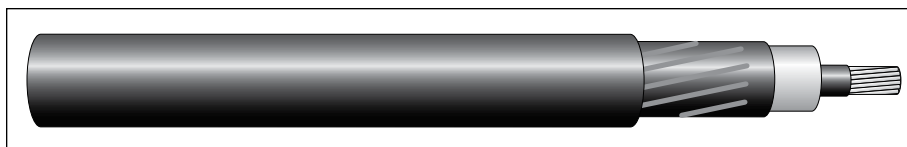
Extruded lead-free semi-conducting thermosetting layer, clean and free stripping from insulation.

Concentric Neutral:

Helically applied, annealed, solid bare copper wires.

Jacket:

Black, non-conducting, sunlight-resistant, Linear Low-Density Polyethylene (LLDPE) extruded to fill spaces between neutral wires.



UNDERGROUND DISTRIBUTION CABLE – 15 kV – TYPE URD – FULL NEUTRAL

COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (2)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							

175 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL (3)

2	1	16	16	0.610	0.695	0.914	0.055	61	134	433	190	130
2	7	16	16	0.635	0.720	0.939	0.055	62	134	450	190	130
1	1	20	16	0.645	0.725	0.945	0.055	77	168	492	215	150
1	19	20	16	0.675	0.760	0.978	0.055	78	168	510	215	150
1/0	1	16	14	0.680	0.760	1.007	0.055	97	213	584	240	170
1/0	19	16	14	0.715	0.800	1.044	0.055	99	213	606	240	170
2/0	19	20	14	0.760	0.845	1.088	0.055	125	266	701	275	195
3/0	19	16	12	0.810	0.895	1.172	0.055	158	338	846	315	220
4/0	19	20	12	0.865	0.950	1.228	0.055	199	423	990	360	250

220 mils NOMINAL TRXLPE INSULATION – 133% INSULATION LEVEL (3)

2	1	16	16	0.700	0.790	1.004	0.055	61	134	488	190	130
2	7	16	16	0.725	0.815	1.029	0.055	62	134	506	190	130
1	1	20	16	0.735	0.820	1.035	0.055	77	168	549	215	150
1	19	20	16	0.765	0.855	1.068	0.055	78	168	569	215	150
1/0	1	16	14	0.770	0.855	1.097	0.055	97	213	645	240	170
1/0	19	16	14	0.805	0.895	1.134	0.055	99	213	669	240	170
2/0	19	20	14	0.850	0.935	1.178	0.055	125	267	766	275	195
3/0	19	16	12	0.900	0.985	1.262	0.055	158	338	916	315	220
4/0	19	20	12	0.955	1.045	1.318	0.055	199	423	1064	360	250

Features and Benefits:

- Lead-free environmentally friendly cable
- Triple-extruded for clean interfaces
- Dry nitrogen cure for enhanced performance
- Class 10,000 environment utilized for cable core material handling
- Excellent moisture resistance
- High dielectric strength
- Low dielectric loss
- Excellent resistance to water treeing
- Clean-stripping insulation shield
- Sunlight-resistant

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.

(1) Extruded layer thicknesses and insulation and insulation shield diameters are in accordance with ANSI/ICEA S-94-649 for Concentric Neutral Cables Rated 5 through 46 kV and also meet the requirements of the latest revisions of AEIC CS8.

(2) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values based on single phase operation, with full current return in the neutral wires. For specific ampacities, contact your General Cable sales representative.

(3) RUS Bulletin 1728F (U1) dated 4/2/12 requires, at minimum, 220 mil insulation thickness for 15 kV cable, 260 mil insulation thickness for 25 kV cable, and 345 mil insulation thickness for 35 kV cable.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

EmPowr® Link Underground Distribution Cable 15-35 kV

Al Conductor TRXLPE Insulation Concentric Neutral LLDPE Jacket



UNDERGROUND DISTRIBUTION CABLE – 15 kV – TYPE UD – 1/3 NEUTRAL

COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (2)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							
175 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL (3)												
2	1	6	16	0.610	0.695	0.914	0.055	61	51	358	170	130
2	7	6	16	0.635	0.720	0.939	0.055	62	51	375	170	130
1	1	7	16	0.645	0.725	0.945	0.055	77	59	395	195	150
1	19	7	16	0.675	0.760	0.978	0.055	78	59	413	195	150
1/0	1	9	16	0.680	0.760	0.981	0.055	97	76	445	225	170
1/0	19	9	16	0.715	0.800	1.018	0.055	99	76	467	225	170
2/0	19	11	16	0.760	0.845	1.062	0.055	125	93	528	255	200
3/0	19	14	16	0.810	0.895	1.112	0.055	158	118	606	290	225
4/0	19	17	16	0.865	0.950	1.168	0.055	199	143	695	330	255
250	37	20	16	0.920	1.005	1.224	0.055	234	168	780	365	280
350	37	18	14	1.025	1.110	1.373	0.055	329	240	1029	440	340
500	37	25	14	1.150	1.235	1.501	0.055	468	334	1316	530	420
750	61	24	12	1.340	1.425	1.772	0.080	703	508	1895	640	510
1000	61	20	10	1.485	1.575	1.963	0.080	937	673	2410	730	595

220 mils NOMINAL TRXLPE INSULATION – 133% INSULATION LEVEL (3)												
2	1	6	16	0.700	0.790	1.004	0.055	61	51	413	170	130
2	7	6	16	0.725	0.815	1.029	0.055	62	51	431	170	130
1	1	7	16	0.735	0.820	1.035	0.055	77	59	452	195	150
1	19	7	16	0.765	0.855	1.068	0.055	78	59	472	195	150
1/0	1	9	16	0.770	0.855	1.071	0.055	97	76	504	225	170
1/0	19	9	16	0.805	0.895	1.108	0.055	99	76	528	225	170
2/0	19	11	16	0.850	0.935	1.152	0.055	125	93	591	255	200
3/0	19	14	16	0.900	0.985	1.202	0.055	158	118	672	290	225
4/0	19	17	16	0.955	1.045	1.258	0.055	199	143	764	330	255
250	37	20	16	1.010	1.100	1.334	0.055	234	168	873	365	280
350	37	18	14	1.115	1.200	1.463	0.055	329	240	1111	440	340
500	37	25	14	1.240	1.330	1.591	0.055	468	334	1405	530	420
750	61	24	12	1.430	1.520	1.862	0.080	703	508	1999	640	510
1000	61	20	10	1.575	1.670	2.083	0.080	937	673	2573	730	595

(1) Extruded layer thicknesses and insulation and insulation shield diameters are in accordance with ANSI/ICEA S-94-649 for concentric neutral cables rated 5-46 kV and also meet the requirements of the latest revisions of AEIC CS8.

(2) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 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, in flat adjacent configuration with neutral wires bonded at each end.

(3) RUS Bulletin 1728F (U1) dated 4/2/12 requires, at minimum, 220 mil insulation thickness for 15 kV cable, 260 mil insulation thickness for 25 kV cable, and 345 mil insulation thickness for 35 kV cable.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

Applications:

EmPowr® Link+ cables are intended for use in dry or wet locations for distribution of single or three phase medium voltage power. Cables with a full neutral are designed for use on single phase underground distribution (UD) applications. Cables with a 1/3 neutral are designed for use in three phase UD applications. The full neutral cable is sometimes referred to as an underground residential distribution (URD) cable. These cables may be installed in ducts or direct buried.

Options:

- Compact conductors
- Copper conductors
- STRANDFILL® blocked conductor. Tested in accordance with ICEA T-31-610
- BIFILL® blocked conductor and cable core/jacket. Tested in accordance with ICEA T-34-664
- True Triple Extrusion
- Smoother and cleaner semi-conducting conductor shield
- Low-strip insulation shield
- Flat strap concentric neutral
- Red stripes on jacket
- Semi-conducting thermoplastic jacket
- Overlaying PVC jacket with separator tape
- Deformation-resistant polypropylene jacket
- CL™ XLPE jacket
- Combined Duct & Cable
- 3 X 1/C triplex or parallel
- TRXLPE Class III insulation for 105°/140°C temperature rating
- Type MV-90 UL 1072
- Type MV-105 UL 1072
- Alternative neutral configurations
- 100% pellet inspection

EmPowr® Link Underground Distribution Cable 15-35 kV

Al Conductor TRXLPE Insulation Concentric Neutral LLDPE Jacket



UNDERGROUND DISTRIBUTION CABLE – 25 kV – TYPE URD – FULL NEUTRAL

COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (2)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							
260 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL (4)												
1	1	20	16	0.805	0.895	1.115	0.055	77	168	604	215	150
1	19	20	16	0.835	0.925	1.148	0.055	78	168	626	215	150
1/0	1	16	14	0.840	0.930	1.177	0.055	97	213	703	240	170
1/0	19	16	14	0.875	0.965	1.214	0.055	99	214	729	240	170
2/0	19	20	14	0.920	1.010	1.258	0.055	125	267	828	275	195
3/0	19	16	12	0.970	1.060	1.342	0.055	158	339	983	315	220
4/0	19	20	12	1.025	1.115	1.418	0.055	199	423	1155	360	250

UNDERGROUND DISTRIBUTION CABLE – 25 kV – TYPE UD – 1/3 NEUTRAL

COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (3)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							
260 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL (4)												
1	1	7	16	0.805	0.895	1.115	0.055	77	59	507	195	150
1	19	7	16	0.835	0.925	1.148	0.055	78	59	529	195	150
1/0	1	9	16	0.840	0.930	1.151	0.055	97	76	561	220	170
1/0	19	9	16	0.875	0.965	1.188	0.055	99	76	587	220	170
2/0	19	11	16	0.920	1.010	1.232	0.055	125	93	652	250	200
3/0	19	14	16	0.970	1.060	1.282	0.055	158	118	736	290	225
4/0	19	17	16	1.025	1.115	1.358	0.055	199	143	852	330	255
250	37	20	16	1.080	1.175	1.414	0.055	234	168	943	360	280
350	37	18	14	1.185	1.275	1.543	0.055	329	240	1188	435	340
500	37	25	14	1.310	1.405	1.721	0.080	468	334	1542	525	420
750	61	24	12	1.500	1.595	1.942	0.080	703	508	2096	640	510
1000	61	20	10	1.645	1.740	2.163	0.080	937	673	2682	730	595

(1) Extruded layer thicknesses and insulation and insulation shield diameters are in accordance with ANSI/ICEA S-94-649 for Concentric Neutral Cables Rated 5 through 46 kV and also meet the requirements of the latest revisions of AEIC CS8.

(2) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values based on single phase operation, with full current return in the neutral wires. For specific ampacities, contact your General Cable sales representative.

(3) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values based on a three phase circuit, one conductor per phase, in flat adjacent configuration, with neutral wires bonded at each end. For specific ampacities, contact your General Cable sales representative.

(4) RUS Bulletin 1728F (U1) dated 4/2/12 requires, at minimum, 220 mil insulation thickness for 15 kV cable, 260 mil insulation thickness for 25 kV cable, and 345 mil insulation thickness for 35 kV cable.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

EmPowr® Link Underground Distribution Cable 15-35 kV

Al Conductor TRXLPE Insulation Concentric Neutral LLDPE Jacket



UNDERGROUND DISTRIBUTION CABLE – 28 kV – TYPE URD – FULL NEUTRAL												
COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (2)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							
280 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL												
1	1	20	16	0.845	0.935	1.155	0.055	77	168	633	215	150
1	19	20	16	0.875	0.970	1.188	0.055	78	168	656	215	150
1/0	1	16	14	0.880	0.970	1.217	0.055	97	214	734	240	170
1/0	19	16	14	0.915	1.010	1.254	0.055	99	214	761	240	170
2/0	19	20	14	0.960	1.055	1.298	0.055	125	272	866	275	195
3/0	19	16	12	1.010	1.105	1.402	0.055	158	345	1045	315	220
4/0	19	20	12	1.065	1.160	1.458	0.055	199	432	1199	360	250

UNDERGROUND DISTRIBUTION CABLE – 28 kV – TYPE UD – 1/3 NEUTRAL												
COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (3)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							
280 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL												
1	1	7	16	0.845	0.935	1.155	0.055	77	59	536	195	150
1	19	7	16	0.875	0.970	1.188	0.055	78	59	559	195	150
1/0	1	9	16	0.880	0.970	1.191	0.055	97	76	591	220	170
1/0	19	9	16	0.915	1.010	1.228	0.055	99	76	617	220	170
2/0	19	11	16	0.960	1.055	1.272	0.055	125	93	684	250	200
3/0	19	14	16	1.010	1.105	1.342	0.055	157	118	789	290	225
4/0	19	17	16	1.065	1.160	1.398	0.055	198	143	887	330	255
250	37	20	16	1.120	1.215	1.454	0.055	234	168	980	360	280
350	37	18	14	1.225	1.320	1.583	0.055	329	240	1227	435	340
500	37	25	14	1.350	1.445	1.761	0.080	468	334	1586	525	420
750	61	24	12	1.540	1.635	2.012	0.080	703	508	2192	640	510
1000	61	20	10	1.685	1.785	2.203	0.080	937	673	2737	730	595

(1) Extruded layer thicknesses and insulation and insulation shield diameters are in accordance with ANSI/ICEA S-94-649 for Concentric Neutral Cables Rated 5 through 46 kV and also meet the requirements of the latest revisions of AEIC CS8.

(2) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values based on single phase operation, with full current return in the neutral wires. For specific ampacities, contact your General Cable sales representative.

(3) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values based on a three phase circuit, one conductor per phase, in flat adjacent configuration, with neutral wires bonded at each end. For specific ampacities, contact your General Cable sales representative.

Dimensions and weights not designated minimum or maximum are nominal values and subject to manufacturing tolerances. In this context, weight means mass.

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Al Conductor TRXLPE Insulation Concentric Neutral LLDPE Jacket



UNDERGROUND DISTRIBUTION CABLE – 35 kV – TYPE URD – FULL NEUTRAL

COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (2)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							
345 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL (4)												
1/0	1	16	14	1.010	1.105	1.367	0.055	97	214	861	240	170
1/0	19	16	14	1.045	1.145	1.404	0.055	99	214	891	240	170
2/0	19	20	14	1.090	1.190	1.448	0.055	125	267	996	275	195
3/0	19	16	12	1.140	1.240	1.532	0.055	158	339	1161	315	220
4/0	19	20	12	1.195	1.295	1.588	0.055	199	423	1318	360	250

UNDERGROUND DISTRIBUTION CABLE – 35 kV – TYPE UD – 1/3 NEUTRAL

COMPRESSED CONDUCTOR		COPPER NEUTRAL		DIAMETER (1) INCHES			NOMINAL JACKET THKN. INCHES (1)	APPROX. WEIGHT (1) LB/1000 FT			AMPACITY (3)	
AL AWG OR kcmil	NO. OF WIRES	NO. OF WIRES	WIRE SIZE AWG	INSULATION		ENCAP LLDPE JACKET		AL COND.	CU NEUT. WIRES	TOTAL	DIRECT BURIED	IN DUCT
				MIN.	MAX.							
345 mils NOMINAL TRXLPE INSULATION – 100% INSULATION LEVEL (4)												
1/0	1	9	16	1.010	1.105	1.341	0.055	97	76	716	220	170
1/0	19	9	16	1.045	1.145	1.378	0.055	99	76	746	220	170
2/0	19	11	16	1.090	1.190	1.422	0.055	125	93	816	250	200
3/0	19	14	16	1.140	1.240	1.472	0.055	158	118	908	290	225
4/0	19	17	16	1.195	1.295	1.528	0.055	199	143	1008	330	255
250	37	20	16	1.250	1.350	1.584	0.055	234	168	1106	360	280
350	37	18	14	1.355	1.455	1.763	0.080	329	240	1419	435	340
500	37	25	14	1.480	1.580	1.891	0.080	468	334	1737	525	420
750	61	24	12	1.670	1.770	2.142	0.080	703	508	2364	640	510
1000	61	20	10	1.815	1.920	2.333	0.080	937	673	2925	730	595

(1) Extruded layer thicknesses and insulation and insulation shield diameters are in accordance with ANSI/ICEA S-94-649 for Concentric Neutral Cables Rated 5 through 46 kV and also meet the requirements of the latest revisions of AEIC CS8.

(2) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values based on single phase operation, with full current return in the neutral wires. For specific ampacities, contact your General Cable sales representative.

(3) Ampacity based on earth thermal resistivity of 90°C-cm/watt, 90°C conductor temp., 20°C earth ambient temperature, 75% load factor and 36" depth of burial. Values based on a three phase circuit, one conductor per phase, in flat adjacent configuration, with neutral wires bonded at each end. For specific ampacities, contact your General Cable sales representative.

(4) RUS Bulletin 1728F (U1) dated 4/2/12 requires, at minimum, 220 mil insulation thickness for 15 kV cable, 260 mil insulation thickness for 25 kV cable, and 345 mil insulation thickness for 35 kV cable.

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