Application

Ideal for applications where neutral current is significantly lower than phase current, this cable configuration with one third neutral is commonly employed in underground distribution systems, industrial and commercial facilities, substations, and utility networks. It provides stable power distribution while efficiently managing unbalanced loads.

Performance

Operating Voltage: 25kV
Temperature Rating:
Normal Operation: Up to 90°C
Emergency Overload: Up to 130°C
Short Circuit Conditions: Up to 250°C
Ambient Temperature Range: Suitable for environments ranging from -40°C to +90°C
Mechanical Performance:
Maximum Sidewall Pressure: 1000 lbs./FT
Bending Radius: 12 times the cable diameter for fixed installations, 15 times for occasional flexing

Construction

Conductor: Moisture-blocked class B compressed stranded soft drawn bare copper per ASTM B3 and ASTM B8 (Conductor moisture block optional and tinned copper per ASTM B33 optional)
Conductor Shield: Conventional semi-conducting cross-linked copolymer
Optional: Supersmooth conductor shield
Conductor tape is used for cable size larger than or equal to 1500 kcmil
Insulation: 260 Mils Tree Retardant Cross Linked Polyethylene with 100% insulation level
Insulation Shield: Strippable semi-conducting cross-linked copolymer
Concentric Neutral: Helically applied soft drawn bare copper one-third concentric neutral
Overall Jacket: Linear Low Density Polyethylene (LLDPE) Jacket, black with red extruded stripes

Specification

-ASTM B3 Soft or Annealed Copper Wire
-ASTM B8 Concentric-Lay-Stranded Copper Conductors
-ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
-ICEA S-94-649 Standard for Concentric Neutral Cables Rated 5 - 46kV
-AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)
-Rural Utility Standard RUS 1728F-U1 or 1728.204 (Electric standards and specifications for materials and construction)
-UL 1072 Listed as MV 90 When Specified
-Optional CSA 68.5: -40ºC and MV 90ºC optional marking available upon request

Eastful Cable Lab

We have CNAS Accredited Facility to assure conformity assessment services with a focus on quality, expertise, and customer satisfaction.
CNAS has international mutual recognition among IAF, ILAC, APLAC and PAC.

Accreditation

We meet the requirements of ISO9001, ISO14001, ISO45001 and ISO50001 and our cables have certificate of CCC, RoHS, CASC, UL, cUL, TÜV Rhineland and CCS.

National Green Factory

Our facility has been awarded of National Green Factory by Ministry of Industry and Information Technology of China.
We are committed to the development of high-end, intelligent and green manufacturing industry.

*The overall energy consumption level of green factories is better than the energy efficiency benchmark level.

Technical Parameters

Weights and Measurements											
Conductor Size	Conductor Overall Dia.	Insulation Overall Dia.	Insul. Thickness	Insulation Shield Overall Dia.	Concentric Neutral	Max. D.C. Resistance 25°C	Jacket Thickness	Approx. Overall Dia.	Approx. Weight	Min. Bending Radius	Max. Pull Tension
AWG/kcmil	inch	inch	mils	inch	No. x AWG	Ω/1000ft	mils	inch	lb/1000ft	inch	lb
1 (Solid)	0.289	0.847	260	0.937	7x14	0.375	50	1.165	784	9.3	669
1 (19)	0.322	0.88	260	0.97	7x14	0.375	50	1.198	804	9.6	669
1/0 (Solid)	0.324	0.882	260	0.972	9x14	0.292	50	1.2	900	9.6	844
1/0 (19)	0.361	0.912	260	1.002	9x14	0.292	50	1.23	892	9.8	844
2/0 (19)	0.405	0.956	260	1.046	11x14	0.239	50	1.274	1027	10.2	1064
3/0 (19)	0.456	1.014	260	1.124	14x14	0.187	50	1.352	1263	10.8	1342
4/0 (19)	0.512	1.062	260	1.172	18x14	0.146	50	1.4	1440	11.2	1692
250 (37)	0.558	1.124	260	1.234	21x14	0.125	50	1.462	1685	11.7	2000
350 (37)	0.661	1.221	260	1.331	18x12	0.092	50	1.592	2136	12.7	2800
500 (37)	0.789	1.349	260	1.459	17x10	0.061	75	1.816	2968	14.5	4000
750 (61)	0.968	1.538	260	1.648	25x10	0.041	75	2.005	4136	16	6000
1000 (61)	1.117	1.687	260	1.827	26x9	0.031	75	2.209	5348	17.7	8000
1000 (61)	1.117	1.687	260	1.827	21x8	0.031	75	2.238	5406	17.9	8000

All dimensions are nominal and subject to normal manufacturing tolerances
-Cable marked with this symbol is a standard stock item
-Pulling tension based on pulling eye directly connected to conductor

Electrical and Engineering Data											
Conductor Size	D.C. Resistance @ 25°C	A.C. Resistance @ 90°C	Capacities Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance	Positive Sequence Impedance	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/kcmil	Ω/1000ft	Ω/1000ft	MΩ/1000ft	Ω/1000ft	A/1000ft	W/1000ft	Ω/1000ft	Ω/1000ft	A	A	A
1 (Solid)	0.128	0.162	0.073	0.054	0.114	1.65	0.216+j0.759	0.162+j0.052	2441	180	220
1 (19)	0.128	0.162	0.068	0.052	0.121	1.75	0.216+j0.758	0.162+j0.052	2441	180	220
1/0 (Solid)	0.102	0.128	0.067	0.052	0.122	1.76	0.182+j0.755	0.128+j0.050	3138	200	250
1/0 (19)	0.102	0.128	0.063	0.05	0.131	1.89	0.182+j0.754	0.128+j0.050	3138	200	250
2/0 (19)	0.081	0.102	0.058	0.048	0.141	2.04	0.156+j0.750	0.102+j0.048	3836	230	285
3/0 (19)	0.064	0.081	0.054	0.047	0.153	2.21	0.135+j0.745	0.081+j0.047	4882	260	320
4/0 (19)	0.051	0.065	0.05	0.045	0.166	2.4	0.119+j0.740	0.065+j0.045	6277	300	360
250 (37)	0.043	0.056	0.047	0.044	0.175	2.53	0.111+j0.736	0.056+j0.044	7323	325	
350 (37)	0.031	0.041	0.042	0.042	0.198	2.86	0.095+j0.728	0.041+j0.042	9973	390	460
500 (37)	0.022	0.03	0.036	0.041	0.226	3.26	0.084+j0.718	0.030+j0.041	14973	455	525
750 (61)	0.014	0.023	0.031	0.039	0.262	3.78	0.077+j0.708	0.023+j0.039	22019	545	580
1000 (61)	0.011	0.019	0.028	0.037	0.294	4.24	0.073+j0.702	0.019+j0.037	28878		
1000 (61)	0.011	0.019	0.028	0.038	0.294	4.24	0.073+j0.700	0.019+j0.038	29419		

-Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
-Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
-Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.

Technical Parameters

Weights and Measurements (Metric)											
Conductor Size	Conductor Overall Dia.	Insulation Overall Dia.	Insul. Thickness	Insulation Shield Overall Dia.	Concentric Neutral	Max. D.C. Resistance 25°C	Jacket Thickness	Approx. Overall Dia.	Approx. Weight	Min. Bending Radius	Max. Pull Tension
AWG/kcmil	mm	mm	mm	mm	No. x AWG	Ω/km	mm	mm	kg/km	mm	N
1 (Solid)	7.34	21.51	6.6	23.8	7x14	1.23	1.27	29.59	1167	236.22	2977
1 (19)	8.18	22.35	6.6	24.64	7x14	1.23	1.27	30.43	1196	243.84	2977
1/0 (Solid)	8.23	22.4	6.6	24.69	9x14	0.96	1.27	30.48	1339	243.84	3756
1/0 (19)	9.17	23.16	6.6	25.45	9x14	0.96	1.27	31.24	1327	248.92	3756
2/0 (19)	10.29	24.28	6.6	26.57	11x14	0.78	1.27	32.36	1528	259.08	4735
3/0 (19)	11.58	25.76	6.6	28.55	14x14	0.61	1.27	34.34	1880	274.32	5972
4/0 (19)	13	26.97	6.6	29.77	18x14	0.48	1.27	35.56	2143	284.48	7529
250 (37)	14.17	28.55	6.6	31.34	21x14	0.41	1.27	37.13	2508	297.18	8900
350 (37)	16.79	31.01	6.6	33.81	18x12	0.3	1.27	40.44	3179	322.58	12460
500 (37)	20.04	34.26	6.6	37.06	17x10	0.2	1.91	46.13	4417	368.3	17800
750 (61)	24.59	39.07	6.6	41.86	25x10	0.13	1.91	50.93	6155	406.4	26700
1000 (61)	28.37	42.85	6.6	46.41	26x9	0.1	1.91	56.11	7959	449.58	35600
1000 (61)	28.37	42.85	6.6	46.41	21x8	0.1	1.91	56.85	8045	454.66	35600

All dimensions are nominal and subject to normal manufacturing tolerances
-Cable marked with this symbol is a standard stock item
-Pulling tension based on pulling eye directly connected to conductor

Electrical and Engineering Data (Metric)											
Conductor Size	D.C. Resistance @ 25°C	A.C. Resistance @ 90°C	Capacities Reactance @ 60Hz	Inductive Reactance @ 60Hz	Charging Current	Dielectric Loss	Zero Sequence Impedance	Positive Sequence Impedance	Short Circuit Current @ 30 Cycle	Allowable Ampacity in Duct 90°C	Allowable Ampacity Directly Buried 90°C
AWG/kcmil	Ω/km	Ω/km	MΩ/km	Ω/km	A/km	W/km	Ω/1000ft	Ω/1000ft	A	A	A
1 (Solid)	0.4199	0.53	0.0223	0.1772	0.374	5.4134	0.216+j0.759	0.162+j0.052	2441	180	220
1 (19)	0.4199	0.53	0.0207	0.1706	0.397	5.7415	0.216+j0.758	0.162+j0.052	2441	180	220
1/0 (Solid)	0.3346	0.42	0.0204	0.1706	0.4	5.7743	0.182+j0.755	0.128+j0.050	3138	200	250
1/0 (19)	0.3346	0.42	0.0192	0.164	0.43	6.2008	0.182+j0.754	0.128+j0.050	3138	200	250
2/0 (19)	0.2657	0.33	0.0177	0.1575	0.463	6.6929	0.156+j0.750	0.102+j0.048	3836	230	285
3/0 (19)	0.21	0.27	0.0165	0.1542	0.502	7.2507	0.135+j0.745	0.081+j0.047	4882	260	320
4/0 (19)	0.1673	0.21	0.0152	0.1476	0.545	7.874	0.119+j0.740	0.065+j0.045	6277	300	360
250 (37)	0.1411	0.18	0.0143	0.1444	0.574	8.3005	0.111+j0.736	0.056+j0.044	7323	325	
350 (37)	0.1017	0.13	0.0128	0.1378	0.65	9.3832	0.095+j0.728	0.041+j0.042	9973	390	460
500 (37)	0.0722	0.1	0.011	0.1345	0.741	10.6955	0.084+j0.718	0.030+j0.041	14973	455	525
750 (61)	0.0459	0.08	0.0094	0.128	0.86	12.4016	0.077+j0.708	0.023+j0.039	22019	545	580
1000 (61)	0.0361	0.06	0.0085	0.1214	0.965	13.9108	0.073+j0.702	0.019+j0.037	28878		
1000 (61)	0.0361	0.06	0.0085	0.1247	0.965	13.9108	0.073+j0.700	0.019+j0.038	29419		

-Ampacities for Direct Buried are based on ICEA P-117-734-2016 Single-Conductor Solid Dielectric 15-35kV. Single Circuit Flat Direct Buried Figure 3
-Ampacities for Duct are based on ICEA P-117-734-2016 for Single-Conductor Solid Dielectric 15-35kV. Single Circuit Trefoil Conduit Figure 7.
-Sequence Impedance values are based on Rho Earth Resistivity: 100 Ohm-Meter/1000ft.