Application

Designed for demanding environments requiring enhanced insulation performance and balanced current distribution, this cable configuration with 133% insulation level and full neutral is well-suited for industrial facilities, utility substations, and large commercial buildings. It ensures reliable power transmission and minimizes electromagnetic interference.

Performance

Operating Voltage: 35kV
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:
345 Mils Tree Retardant Cross Linked Polyethylene with 133% insulation level
Insulation Shield:
Strippable semi-conducting cross-linked copolymer
Concentric Neutral:
Helically applied soft drawn bare copper full 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
4/0 (19)	0.512	1.39	420	1.5	32x12	0.051	75	1.812	2384	14.5	1692
250 (37)	0.558	1.444	420	1.554	25x10	0.041	75	1.908	2729	15.3	2000

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
4/0 (19)	0.051	0.065	0.067	0.051	0.171	3.5	0.119+j0.728	0.065+j0.051	17730	305	350
250 (37)	0.043	0.056	0.064	0.05	0.18	3.6	0.110+j0.724	0.056+j0.050	22019	321	

-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.

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
4/0 (19)	13	35.31	10.67	38.1	32x12	0.17	1.91	46.02	3548	368.3	7529
250 (37)	14.17	36.68	10.67	39.47	25x10	0.13	1.91	48.46	4061	388.62	8900

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
4/0 (19)	0.1673	0.21	0.0204	0.1673	0.561	11.4829	0.119+j0.728	0.065+j0.051	17730	305	350
250 (37)	0.1411	0.18	0.0195	0.164	0.591	11.811	0.110+j0.724	0.056+j0.050	22019	321	

-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.
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