Application

This cable type is versatile and suitable for various applications in low to medium voltage power distribution systems. Its flexibility makes it applicable in underground distribution systems, industrial plants, commercial buildings, utility networks, and residential areas. It's particularly useful in areas where reliable power distribution with balanced phases and neutral is essential.

Performance

Operating Voltage: 5kV or 8kV
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: Depending on the specific construction, typically capable of withstanding high pressures.
Bending Radius: Flexible enough to accommodate various installation scenarios, with bending radius requirements typically specified by cable diameter.

Construction

Conductor:
Stranded conductors made of copper or aluminum, with optional tinning for improved corrosion resistance.
Conductor Shield:
Conventional semi-conducting cross-linked copolymer, with an option for a supersmooth conductor shield. For larger cable sizes, a conductor tape is used.
Insulation:
Tree Retardant Cross-Linked Polyethylene (TR-XLPE) insulation, with options for both 100% and 133% insulation levels.
Insulation Shield:
Strippable semi-conducting cross-linked copolymer.
Concentric Neutral:
The cable can be configured with either one-third or full concentric neutral, depending on the application's requirements.
For one-third neutral configuration, the neutral conductor is helically applied around the insulated phase conductors, providing adequate grounding and managing unbalanced loads.
For full neutral configuration, the neutral conductor surrounds the phase conductors completely, offering enhanced grounding and improved current distribution balance.
Overall Jacket:
Typically made of Linear Low Density Polyethylene (LLDPE) for durability and resistance to environmental factors.
Jackets are often black with red extruded stripes for easy identification.
Optional jacket materials or colors may be available based on specific requirements.

Specification

-ASTM B231 Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
-ASTM B609 Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
-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

5 kV TR-XLPE Insulated												
			1/3 Neutral					Full Neutral				
Conductor Size	Number of Strands	Nominal Insulation Overall Dia.	Number of Wires	Size	Jacket Thickness	Approx. Outer Diameter	Approx. Total Weight	Number of Wires	Size	Jacket Thickness	Approx. Outer Diameter	Approx. Total Weight
AWG/kcmil	-	inch	-	AWG	mils	inch	lb/1000ft	-	AWG	mils	inch	lb/1000ft
Copper 100% Insulation Level (115 mils)												
2	7	0.55	6	14	60	0.88	498	16	14	60	0.88	632
1	19	0.59	7	14	60	0.96	617	13	12	80	1	805
1/0	19	0.63	9	14	80	1	728	16	12	80	1.04	953
2/0	19	0.68	11	14	80	1.05	858	13	10	80	1.12	1163
3/0	19	0.73	14	14	80	1.1	1027	16	10	80	1.17	1393
4/0	19	0.78	18	14	80	1.15	1240	16	9	80	1.25	1697
250	37	0.84	13	12	80	1.24	1423	–	–	–	–	–
350	37	0.94	18	12	80	1.35	1881	–	–	–	–	–
500	37	1.07	17	10	80	1.54	2624	–	–	–	–	–
750	61	1.26	20	9	110	1.82	3870	–	–	–	–	–
1000	61	1.41	26	9	110	1.97	4972	–	–	–	–	–
Aluminum 100% Insulation Level (115 mils)												
2	7	0.55	6	14	60	0.92	393	10	14	60	0.92	447
1	19	0.59	6	14	80	0.96	424	13	14	80	0.96	518
1/0	19	0.63	6	14	80	1	461	16	14	80	1	595
2/0	19	0.68	7	14	80	1.05	520	13	12	80	1.08	708
3/0	19	0.73	9	14	80	1.1	600	16	12	80	1.13	825
4/0	19	0.78	11	14	80	1.15	693	13	10	80	1.23	998
250	37	0.84	13	14	80	1.21	778	16	10	80	1.29	1158
350	37	0.94	18	14	80	1.31	983	16	9	80	1.41	1440
500	37	1.07	16	12	80	1.5	1307	29	10	80	1.54	1954
750	61	1.27	15	10	110	1.81	1927	–	–	–	–	–
1000	61	1.42	16	9	110	1.98	2419	–	–	–	–	–