

Aluminum Type USE-2 Cable 600 Volts (Underground Service Entrance)

Conductor

- Stranded conductors, compressed, 1350 alloy aluminum, temper H19 (Hard), H14 (1/2 Hard) or H16 (3/4 Hard)
- Available in 8000 series aluminum, on demand

Insulation

- XLPE 90°C – Cross linked polyethylene

Identification Colors

- Black colored insulated phase conductors
- Black colored insulated, 3 yellow extruded stripes, neutral conductor

Identification Marking

- Phases conductors durably surface printed for identification (Phase A, Phase B and Phase C)

Maximum operational temperatures

- 90 °C in normal continuous operation (wet or dry locations)
- 130 °C in overload emergency operation
- 250 °C in short circuit conditions

Assembly

- Duplex: 1 Phase conductor (Phase A) + 1 Neutral conductor
- Triplex: 2 Phase conductors (Phase A and B) + 1 Neutral conductor
- Quadruplex: 3 Phase conductors (Phase A, B and C) + 1 Neutral conductor

Application

The Type USE-2 cables are used for secondary electrical energy distribution in service at 600 volts. This type of cable can be used either for direct burial installations or in ducts installations

Applicable Standards

- ICEA S-105-692 – Standard for 600 Volt Single Layer Thermoset Insulated Utility Underground Distribution Cables
- UL 854 – Service-Entrance Cables
- 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 B800 - 8000 Series Aluminum Alloy Wire for Electrical Purposes - Annealed and Intermediate Tempers
- ASTM B801 - Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy for Subsequent Covering or Insulation

Dimensional Datasheet

SINGLE CABLE									
Number of Phase Conductors	Phase Conductors Size	Neutral Conductors Size	Phase Conductor Diameter	Insulation Thickness	Insulation Diameter	Neutral Conductor Diameter	Steel Tape Thickness	Sheath Thickness	Outer Diameter
-	(AWG/MCM)	(AWG)	(in)	(in)	(in)	(in)	(in)	(in)	(in)
3	6	6	0.184	0.055	0.294	0.184	0.020	0.063	0.887
3	4	4	0.232	0.055	0.342	0.232	0.020	0.063	0.999
3	2	2	0.292	0.063	0.424	0.292	0.020	0.079	1.204
3	1/0	2	0.332	0.063	0.460	0.292	0.020	0.079	1.285
3	2/0	1/0	0.417	0.071	0.561	0.332	0.020	0.083	1.524
3	3/0	1/0	0.470	0.079	0.631	0.332	0.020	0.087	1.667
3	4/0	2/0	0.528	0.079	0.689	0.417	0.020	0.087	1.796
3	300	2/0	0.631	0.098	0.833	0.417	0.020	0.087	2.116

DUPLEX CABLE											
Code Word	Phase Conductors			Neutral Conductor			Phase Insulation Diameter (in)	Outside Diameter (in)	Weight per 1000 ft (lbs)	Ampacity (A)	
	Size (AWG)	Number of Strands	Insulation Thickness (mils)	Size (AWG)	Number of Strands	Insulation Thickness (mils)				Direct Buried	In Duct
Bard	8	7	60	8	7	60	0,262	0,524	76	70	55
Clafin	6	7	60	6	7	60	0,299	0,596	91	95	70
Delgado	4	7	60	4	7	60	0,345	0,690	129	125	90
Everett	2	7	60	2	7	60	0,403	0,808	187	187	100

TRIPLEX CABLE											
Code Word	Phase Conductors			Neutral Conductor			Phase Insulation Diameter (in)	Outside Diameter (in)	Weight per 1000 ft (lbs)	Ampacity (A)	
	Size (AWG)	Number of Strands	Insulation Thickness (mils)	Size (AWG)	Number of Strands	Insulation Thickness (mils)				Direct Buried	In Duct
Erksine	6	7	60	6	7	60	0,299	0,646	143	95	70
Vassar	4	7	60	4	7	60	0,345	0,754	203	125	90
Stephens	2	7	60	4	7	60	0,403	0,842	264	165	120
Ramapo	2	7	60	2	7	60	0,403	0,874	294	165	120
Brenau	1/0	19	80	2	7	60	0,522	1,064	408	215	160
Bergen	1/0	19	80	1/0	19	80	0,522	1,133	465	215	160
Converse	2/0	19	80	1	19	80	0,566	1,174	502	245	180
Hunter	2/0	19	80	2/0	19	80	0,566	1,228	560	245	180
Hollins	3/0	19	80	1/0	19	80	0,616	1,276	606	280	205
Sweetbriar	4/0	19	80	2/0	19	80	0,616	1,389	739	315	240
Monmouth	4/0	19	80	4/0	19	80	0,672	1,457	828	315	240
Pratt	250	37	95	3/0	19	80	0,748	1,538	893	345	265
Wesleyan	350	37	95	4/0	19	80	0,851	1,736	1166	415	320
Rider	500	37	95	350	37	95	0,979	2,035	1663	495	395
Fairfield	750	61	110	500	37	95	1,118	2,860	2304	615	525

QUADRUPLIX CABLE											
Code Word	Phase Conductors			Neutral Conductor			Phase Insulation Diameter (in)	Outside Diameter (in)	Weight per 1000 ft (lbs)	Ampacity (A)	
	Size (AWG)	Number of Strands	Insulation Thickness (mils)	Size (AWG)	Number of Strands	Insulation Thickness (mils)				Direct Buried	In Duct
Tulsa	4	7	60	4	7	60	0,345	0,833	258	119	85
Dyke	2	7	60	4	7	60	0,403	0,938	346	153	115
Wittenberg	2	7	60	2	7	60	0,403	0,973	375	153	115
Notre Dame	1/0	19	80	2	7	60	0,522	1,188	541	198	150
Purdue	1/0	19	80	1/0	19	80	0,522	1,260	596	198	150
Syracuse	2/0	19	80	1	19	80	0,566	1,316	664	225	170
Wake Forest	4/0	19	80	2/0	19	80	0,672	1,560	979	290	225
Rust	250	37	95	3/0	19	80	0,748	1,725	1,176	319	240
Slippery Rock	350	37	95	4/0	19	80	0,851	1,945	1,544	385	305
Wofford	500	37	95	350	37	95	0,851	2,348	2,174	467	420
Westminster	750	61	110	350	37	95	0,979	2,722	2,816	615	492