Multiplex

Multiplex-Neutracen Aluminum Wire

GENERAL INFORMATION

The Neutracen Multiplex are aluminum AAC, ACSR and AAAC type conductors; with insulation either thermoplastic PE or thermoset black crosslinked polyethylene (XLPE). The AAC, ACSR or AAAC are helically twisted in different counts over a messenger core either bare or insulated to from a duplex, triplex or tetraplex conductors.

FEATURES

- The cables with thermoplastic UV Polyethylene (PE) are designed for 75°C max.
- The Multiplex Neutracen cables are designed with UV resistance thermoset cross-linked polyethylene (XLPE) insulation capable to operate at 90°C max temperature.
- The Neutracen is design for aerial circuits where the load is mainly carried by the messenger core cable, the core tensile capability depends on the type of conductor: AAC lower tensile and ACSR/AAAC higher tensile for longer spams.
- The ACSR cores are limited by the severe environmental corrosion conditions of high salinity, acidity and humidity. The AAAC is the recommended core option for severe conditions.
- The Neutracen multiplex have several permutations among cables types, insulation, cores and cables flexibility. They are identified with the cable code name.

CERTIFICATIONS AND DESIGN STANDARDS

Standards of design: ASTM B230, ASTM B231, ASTM B232, ASTM B398, ASTM B399, ASTM B498, ANSI/ICEA S-76-474 and ANSI/ICEA S-95-658.

Certifications: CIDET 03533

CABLE DESIGN

Conductor material	Aluminium
Core insulation material	XLPE

INSTALLATION DETAILS

Application	Power Distribution
Outdoor installation	Yes
Underground installation	No
Suitable as installation cable	Yes

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PHYSICAL & CHEMICAL PROPERTIES

Flame retardant	No
Oil resistant	No
Moisture resistance	Yes

SPECIFIC APPLICATIONS

- The Neutracen multiplex conductors are designed to connect aerial power distribution networks to final users, from the secondary network to the single user service meter.
- To connect secondary aerial power distribution circuits in long distance networks the supports distance will depend on the messenger core used.
- The AAAC or ACSR cables can be used to support additional circuit conductors.
- The Neutracen cables are design for external aerial applications, NOT allowed in breaker boxes. Aerial to duct transition join must be installed with correct fixtures.

LEGEND ON THE CABLE

For phase A or phase 1, with LDPE insulation, the marking to be printed is:
F-A WP (GAUGE) AWG ((GAUGE) mm²) PRYSMIAN (R) PHELPS DODGE (R)
For phase B or phase 2, with LDPE insulation, the marking to be printed is:
F-B WP (GAUGE) AWG ((GAUGE) mm²) PRYSMIAN (R) PHELPS DODGE (R)
For phase C or phase 3, with LDPE insulation, the marking to be printed is:
F-C WP (GAUGE) AWG ((GAUGE) mm²) PRYSMIAN (R) PHELPS DODGE (R)
For phase A or phase 1, with XLPE insulation, the marking to be printed is:
F-A XLPE (GAUGE) AWG ((GAUGE) mm²) PRYSMIAN (R) PHELPS DODGE (R)
For phase B or phase 2, with XLPE insulation, the marking to be printed is:
F-B XLPE (GAUGE) AWG ((GAUGE) mm²) PRYSMIAN (R) PHELPS DODGE (R)
For phase C or phase 3, with XLPE insulation, the marking to be printed is:
F-C XLPE (GAUGE) AWG ((GAUGE) mm²) PRYSMIAN (R) PHELPS DODGE (R)

DUPLEX AAC

The conductor operating amperage is defined by the installation condition and operating temperatures identified. See Table 9 on Ampacities for Aluminum & ACSR Overhead Electrical Conductors issued by the Aluminum Association.

Code	1350 Al Conductor						1350 Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Collie	6	7	0,183	4,66	0,045	1,143	6	7	0,183	4,66	13,40	98
Spaniel	4	7	0,231	5,88	0,045	1,143	4	7	0,231	5,88	15,74	148
Doberman	2	7	0,292	7,42	0,045	1,143	2	7	0,292	7,42	18,68	255
Basset	1/0	7	0,369	9,36	0,060	1,524	1/0	7	0,369	9,36	23,89	362

DUPLEX AAAC

Code	1350 Al Conductor						6201 Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Vizla	6	7	0,183	4,66	0,045	1,143	30,58	7	0,198	5,04	13,40	104
Whippet	4	7	0,231	5,88	0,045	1,143	48,69	7	0,250	6,36	15,74	157
Schnauzer	2	7	0,292	7,42	0,045	1,143	77,47	7	0,316	8,02	18,68	241
Afghan	1/0	7	0,369	9,36	0,060	1,524	123,3	7	0,398	10,11	23,89	386

DUPLEX ACSR

Code	1350 Al Conductor						ACSR Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Shepherd	6	7	0,183	4,66	0,045	1,143	6	6/1	0,198	5,03	12,1	115
Terrier	4	7	0,231	5,88	0,045	1,143	4	6/1	0,250	6,35	14,63	175
Chow	2	7	0,292	7,42	0,045	1,143	2	6/1	0,316	8,01	17,85	268
Bloodhound	1/0	7	0,369	9,36	0,060	1,524	1/0	6/1	0,398	10,11	22,67	430

TRIPLEX AAC

Code	1350 Al Conductor						1350 Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Patella	6	7	0,183	4,66	0,045	1,143	6	7	0,183	4,66	15,27	159
Oyster	4	7	0,231	5,88	0,045	1,143	4	7	0,231	5,88	17,88	237
Clan	2	7	0,292	7,42	0,045	1,143	2	7	0,292	7,42	21,21	358
Murex	1/0	7	0,369	9,36	0,060	1,524	1/0	7	0,369	9,36	27,11	576
Nassa	2/0	7	0,414	10,51	0,060	1,524	2/0	7	0,414	10,51	29,64	710
Quahog	3/0	7	0,465	11,80	0,080	2,032	3/0	7	0,465	11,80	33,64	906
Coquina	4/0	7	0,522	13,25	0,060	1,524	4/0	7	0,522	13,25	35,55	1089
Purpura	1/0	19	0,372	9,46	0,060	1,524	1/0	7	0,369	9,36	27,37	570
Trophon	2/0	19	0,419	10,63	0,060	1,524	2/0	7	0,414	10,51	29,89	702
Ione	3/0	19	0,470	11,94	0,080	1,524	3/0	7	0,465	11,80	31,97	896
Apus	4/0	19	0,528	13,40	0,080	1,524	4/0	7	0,522	13,25	31,14	1105
Chiton	266,8	19	0,593	15,05	0,080	2,032	266,8	19	0,593	15,05	40,74	1364
Nannynose	336,4	19	0,665	16,90	0,080	2,032	336,4	19	0,665	16,90	44,76	1694

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TRIPLEX AAAC

Code	1350 Al Conductor						6210 Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Hippa	6	7	0,183	4,66	0,045	1,143	30,58	7	0,198	5,04	15,27	162
Barnacles	4	7	0,231	5,88	0,045	1,143	48,69	7	0,250	6,36	17,88	247
Solaster	2	7	0,292	7,42	0,045	1,143	48,69	7	0,250	6,36	21,21	333
Lobster	2	7	0,292	7,42	0,060	1,524	77,47	7	0,316	8,02	22,94	398
Gammarus	1/0	7	0,369	9,36	0,060	1,524	123,3	7	0,398	10,11	27,11	601
Dungenese	2/0	7	0,414	10,51	0,060	1,524	155,4	7	0,447	11,35	29,64	741
Leda	1/0	19	0,372	9,46	0,060	1,524	123,3	7	0,398	10,11	27,37	592
Cyclops	2/0	19	0,419	10,63	0,060	1,524	155,4	7	0,447	11,35	29,89	733
Fulgur	3/0	19	0,470	11,94	0,060	1,524	123,3	7	0,398	10,11	32,70	810
Lepas	4/0	19	0,528	13,40	0,060	1,524	246,9	7	0,563	14,31	35,88	1150

TRIPLEX ACSR

Code	1350 Al Conductor						ACSR Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Voluta	6	7	0,183	4,66	0,045	1,143	6	6/1	0,198	5,03	15,27	170
Periwinkle	4	7	0,231	5,88	0,045	1,143	4	6/1	0,250	6,35	17,88	264
Cockle	2	7	0,292	7,42	0,045	1,143	4	6/1	0,250	6,35	21,21	351
Conch	2	7	0,292	7,42	0,060	1,143	2	6/1	0,316	8,01	21,21	401
Janthina	1/0	7	0,369	9,36	0,060	1,524	2	6/1	0,316	8,01	27,11	564
Neritina	1/0	7	0,369	9,36	0,060	1,524	1/0	6/1	0,398	10,11	27,11	644
Cenia	1/0	19	0,372	9,46	0,060	1,524	1/0	6/1	0,398	10,11	27,37	638
Clio	2/0	19	0,419	10,63	0,060	1,524	2/0	6/1	0,354	9,00	29,89	688
Mursia	3/0	19	0,470	11,94	0,060	1,524	123,3	7	0,398	10,11	32,70	878
Cerapus	4/0	19	0,528	13,40	0,060	1,524	246,9	7	0,447	11,35	35,88	1082

CUADRUPLEX AAC

Code	1350 Al Conductor						1350 Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Pinto	4	7	0,231	5,88	0,045	1,143	4	7	0,231	5,88	19,95	326
Mustang	2	7	0,292	7,42	0,045	1,143	2	7	0,292	7,42	23,67	491
Libyan	1/0	7	0,369	9,36	0,060	1,524	1/0	7	0,369	9,36	30,25	790
Orloff	2/0	7	0,414	10,51	0,060	1,524	2/0	7	0,414	10,51	33,07	973
Mongolian	3/0	7	0,465	11,80	0,060	1,524	3/0	7	0,465	11,80	36,13	1201
Singlefoot	4/0	7	0,522	13,25	0,060	1,524	4/0	7	0,522	13,25	39,67	1485

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CUADRUPLEX AAAC

Code	1350 Al Conductor						6201 Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Fench-Coach	6	7	0,183	4,66	0,045	1,143	30,58	7	0,198	5,04	17,04	226
Arabian	4	7	0,231	5,88	0,045	1,143	48,69	7	0,250	6,36	19,95	336
Belgan	2	7	0,292	7,42	0,045	1,143	77,47	7	0,316	8,02	23,67	506
Shetland	1/0	19	0,372	9,46	0,060	1,524	123,3	7	0,398	10,11	30,53	809
Thoroughbread	2/0	19	0,419	10,63	0,060	1,524	155,4	7	0,447	11,35	33,35	992
Trotter	3/0	19	0,470	11,94	0,060	1,524	195,7	7	0,502	12,74	36,49	1224
Walking	4/0	19	0,528	13,40	0,060	1,524	243,9	7	0,563	14,31	40,03	1514

CUADRUPLEX ACSR

Code	1350 Al Conductor						ACSR Al Messenger or Neutral				Full Conductor	
	Gauge	Wires	Diameter		Insulation Thickness		Gauge	Wires	Diameter		Insulation Thickness	Weight
	AWG/kcmil	#	in	mm	in	mm	AWG/kcmil	#	in	mm	mm	kg/km
Chola	6	7	0,183	4,66	0,045	1,143	6	6/1	0,198	5,03	17,04	237
Hackney	4	7	0,231	5,88	0,045	1,143	4	6/1	0,250	6,35	19,95	353
Palomino	2	7	0,292	7,42	0,045	1,143	2	6/1	0,316	8,01	23,67	534
Costena	1/0	19	0,372	9,46	0,060	1,524	1/0	6/1	0,398	10,11	30,53	849
Grullo	2/0	19	0,419	10,63	0,060	1,524	2/0	6/1	0,447	11,35	33,35	1047
Suffolk	3/0	19	0,470	11,94	0,060	1,524	3/0	6/1	0,502	12,75	36,49	1295
Appaloosa	4/0	19	0,528	13,40	0,060	1,524	4/0	6/1	0,563	14,30	40,03	1602

Note: The values given may vary according to the manufacturing tolerances.

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FULL CONDUCTOR CHARACTERISTICS SUMMARY

Type	Variant	Nominal cross section conductor AWG [kcmil]	Diameter conductor [mm]	Cable weight [kg/km]
Collie	AAC Neutral	2 x 6	13.4	98
Spaniel	AAC Neutral	2 x 4	15.74	148
Doberman	AAC Neutral	2 x 2	18.68	255
Basset	AAC Neutral	2 x 1/0	23.89	362
Vizla	AAAC Neutral	1 x 6 + 1 x 30.58	13.4	104
Whippet	AAAC Neutral	1 x 4 + 1 x 48.69	15.74	157
Schnauzer	AAAC Neutral	1 x 2 + 1 x 77.47	18.68	241
Afghan	AAAC Neutral	1 x 1/0 + 1 x 123.3	23.89	386
Shepherd	ACSR Neutral	2 x 6	12.1	115
Terrier	ACSR Neutral	2 x 4	14.63	175
Chow	ACSR Neutral	2 x 2	17.85	268
Bloodhound	ACSR Neutral	2 x 1/0	22.67	430
Patella	AAC Neutral	3 x 6	15.27	159
Oyster	AAC Neutral	3 x 4	17.88	237
Clam	AAC Neutral	3 x 2	21.21	358
Murex	AAC Neutral	3 x 1/0	27.11	576
Nassa	AAC Neutral	3 x 2/0	29.64	710
Quahog	AAC Neutral	3 x 3/0	33.67	906
Coquina	AAC Neutral	3 x 4/0	35.55	1,089
Purpura	AAC Neutral	3 x 1/0	27.37	570
Trophon	AAC Neutral	3 x 2/0	29.89	702
Ione	AAC Neutral	3 x 3/0	31.97	896
Apus	AAC Neutral	3 x 4/0	35.14	1,105

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FULL CONDUCTOR CHARACTERISTICS SUMMARY

Type	Variant	Nominal cross section conductor AWG [kcmil]	Diameter conductor [mm]	Cable weight [kg/km]
Chiton	AAC Neutral	3 x 266.8	40.74	1,364
Nannynose	AAC Neutral	3 x 336.4	44.76	1,694
Hippa	AAAC Neutral	2 x 6 + 1 x 30.58	15.27	162
Barnacles	AAAC Neutral	2 x 4 + 1 x 48.69	17.88	247
Solaster	AAAC Neutral	2 x 2 + 1 x 48.69	21.21	333
Lobster	AAAC Neutral	2 x 2 + 1 x 77.47	22.94	398
Gammarus	AAAC Neutral	2 x 1/0 + 1 x 123.3	27.11	601
Dungenese	AAAC Neutral	2 x 2/0 + 1 x 155.4	29.64	741
Leda	AAAC Neutral	2 x 1/0 + 1 x 123.3	27.37	592
Cyclops	AAAC Neutral	2 x 2/0 + 1 x 155.4	29.89	733
Lepas	AAAC Neutral	2 x 4/0 + 1 x 246.9	35.88	1,150
Cockle	ACSR Neutral	2 x 2 + 1 x 4	21.21	351
Periwinkle	ACSR Neutral	3 x 4	17.88	264
Conch	ACSR Neutral	3 x 2	21.21	401
Fulgur	AAAC Neutral	2 x 3/0 + 1 x 123.3	32.7	810
Voluta	ACSR Neutral	3 x 6	15.27	170
Janthina	ACSR Neutral	2 x 1/0 + 1 x 2	27.11	564
Neritina	ACSR Neutral	3 x 1/0	27.11	644
Cenia	ACSR Neutral	3 x 1/0	27.37	638
Clio	ACSR Neutral	2 x 2/0 + 1 x 1	29.89	688
Mursia	ACSR Neutral	2 x 3/0 + 1 x 1/0	32.7	978
Cerapus	ACSR Neutral	2 x 4/0 + 1 x 2/0	35.88	1,052
Pinto	AAC Neutral	4 x 4	19.95	326

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FULL CONDUCTOR CHARACTERISTICS SUMMARY

Type	Variant	Nominal cross section conductor AWG [kcmil]	Diameter conductor [mm]	Cable weight [kg/km]
Mustang	AAC Neutral	4 x 2	23.67	491
Libyan	AAC Neutral	4 x 1/0	30.25	790
Orloff	AAC Neutral	4 x 2/0	33.07	973
Mongolian	AAC Neutral	4 x 3/0	36.13	1,201
Singlefoot	AAC Neutral	4 x 4/0	39.67	1,485
French-Coach	AAAC Neutral	3 x 6 + 1 x 30.58	17.04	226
Arabian	AAAC Neutral	3 x 4 + 1 x 48.69	19.95	336
Belgian	AAAC Neutral	3 x 2 + 1 x 77.47	23.67	506
Shetland	AAAC Neutral	3 x 1/0 + 1 x 123.3	30.53	806
Thoroughbred	AAAC Neutral	3 x 2/0 + 1 x 155.4	33.35	992
Trotter	AAAC Neutral	3 x 4/0 + 1 x 195.7	36.49	1,224
Walking	AAAC Neutral	3 x 4/0 + 1 x 246.9	40.03	1,514
Chola	ACSR Neutral	4 x 6	17.04	237
Hackney	ACSR Neutral	4 x 4	19.95	353
Palomino	ACSR Neutral	4 x 2	23.67	534
Costena	ACSR Neutral	4 x 1/0	30.53	849
Grullo	ACSR Neutral	4 x 2/0	33.35	1,047
Suffolk	ACSR Neutral	4 x 3/0	36.49	1,295
Appaloosa	ACSR Neutral	4 x 4/0	40.03	1,602

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