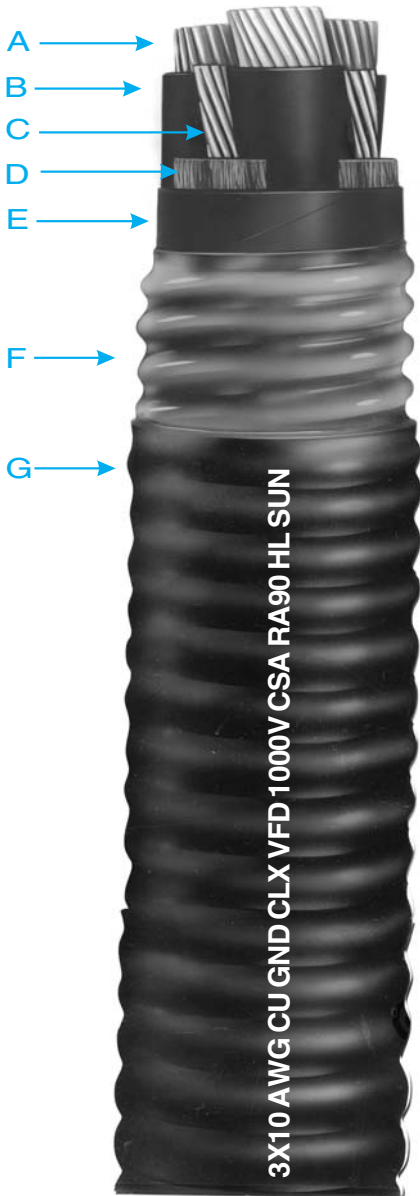




C-L-X[®] CSA Type RA90 HL

CSA Type RA90 HL and cUL Type ACIC-TC Power and Control Cables
1000V Power Cable- Aluminum Sheath

3/C VFD and 4/C Copper Conductors/90°C Wet or Dry Rating
For Cable Tray Use - Sunlight Resistant - For Direct Burial



- A Bare, Stranded Copper Conductors
- B X-Olene Insulation —Color Coded for Identification
- C Bare, Stranded Copper Grounding Conductor(s)
- D Non-Hygroscopic Fillers, as necessary
- E Binder Tape
- F Impervious, Continuous, Welded Corrugated, Aluminum C-L-X Sheath
- G Black Okoseal Jacket

Insulation

X-Olene[®] is Okonite's trade name for its chemically cross-linked polyethylene, with high dielectric strength.

Assembly and Coverings

The individual conductors are cabled together with non-hygroscopic fillers and a binder tape overall. A bare stranded copper grounding conductor(s), located in the outer interstices, is provided for grounding. The impervious, continuous, welded, corrugated aluminum C-L-X sheath provides complete protection against moisture, liquids and gases and has excellent mechanical strength. For direct burial in the ground, embedment in concrete, or for areas subjected to corrosive atmospheres, the C-L-X sheath is protected with an arctic grade black Okoseal[®] (PVC) jacket.

Applications

C-L-X Type RA90 HL cables with an impervious, continuous, corrugated aluminum sheath are recommended as an economical alternate to a wire in conduit system.

C-L-X Type RA90 HL cables may be installed indoors or outdoors, in wet or dry locations, as open runs of cable secured to supports spaced not more than six feet apart, in cable tray, as aerial cable on a messenger, in any approved raceway, direct burial, or encased in concrete. They are permitted as a method of separation between unique voltage systems per Rule 16-212 of the CEC. C-L-X Type RA90 HL cables are also approved for use in Zone 1, Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 per CEC.

Specifications

Conductors: Uncoated soft copper per ASTM B-3. Sizes smaller than #8 are compress stranded per ASTM B-8. Sizes #8 and larger are compact stranded per ASTM B-496.

Insulation: X-Olene per ICEA S-95-658/NEMA WC70 and CSA C22.2 No. 38, Listed CSA Type RW90. Meets MIL-DTL-1377H, section 4.8.4.1.2 cold bend at -66°C and ASTM D746 brittle point at -76°C.

Conductor Identification: Control Sizes, #9 AWG and smaller, color coded insulation. Power Sizes, #8 AWG and larger, black with printed words of number and color.

Grounding Conductor(s): One or three bare soft copper per ASTM B-3. Stranded in accordance with ASTM B-496.

Sheath: Close fitting, impervious, continuous, welded, corrugated aluminum C-L-X per CSA C22.2 No. 123.

Jacket: Black Okoseal (PVC) per CSA C22.2 No. 123. Meets ASTM D746 brittle point at -40°C.

Product Features

- Passes the IEEE 383-1974 and IEEE 1202/FT4 vertical tray flame tests.
- Passes the 210,000 BTU ICEA T-29-520 Vertical Tray Flame Test.
- Complete pre-packaged, factory-tested wiring system; color coded.
- C-L-X cables are quality control inspected to meet or exceed applicable CSA standards.
- 90°C continuous operating temperature in all types of installations.
- 130°C emergency rating.
- 250°C short circuit rating.
- Good EMI shielding characteristics.
- Impervious, continuous metallic sheath excludes moisture, gases and liquids.
- Lower installed system cost than conduit or EMT systems.
- Provides excellent grounding safety.
- Excellent compression and impact resistance.
- Continuous long lengths.
- Installation temperature of -40°C.
- Three symmetrical grounding conductors with the CLX sheath provide a superior low resistance return path for VFD and other modern ac drive/motor applications.
- CSA C22.2 No. 123 Type RA90.
- CSA C22.2 No. 174 Type HL.
- CSA listed as FT4 and LTGG (-40°C).
- CSA Type RA90 HL complies with CEC Zone 1, Zone 2, Class II Div 2, Class III Div 1 and Class III Div 2 Hazardous Locations.
- CSA C22.2 No. 239 Type ACIC-TC for sizes 4/0 AWG and smaller.

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Catalog Number	Conductor Size AWG	Number of Conductors	Insulation Thickness - mils	Grounding Conductor(s) AWG	Core O.D. - Inches	Core O.D. - mm	C-L-X O.D. - Inches	C-L-X O.D. - mm	Jacket Thickness - mils	Jacket Thickness - mm	Approx. O.D. - Inches	Approx. O.D. - mm	Cross-Sectional Area (sq. in.) †	Approx. Net Weight lbs./1000	Approx. Ship Weight lbs./1000	90°C Wet or Dry CEC Ampacity	75°C Wet CEC Ampacity
546-31-3550 546-31-3551	14(7X) (2.08mm ²)	3 4	45	3 #18 3 #18	0.367 0.411	9.3 10.4	0.579 0.622	14.7 15.8	50 50	1.27 1.27	0.689 0.732	17.5 18.6	0.37 0.42	210 240	249 320	15 15	15 15
546-31-3552 546-31-3553	12(7X) (3.31mm ²)	3 4	45	3 #16 3 #16	0.406 0.454	10.3 11.5	0.622 0.665	15.8 16.9	50 50	1.27 1.27	0.732 0.775	18.6 19.7	0.42 0.47	255 291	335 371	20 20	20 20
546-31-3554 546-31-3555	10(7X) (5.26mm ²)	3 4	45	3 #14 3 #14	0.458 0.512	11.6 13.0	0.665 0.752	16.9 19.1	50 50	1.27 1.27	0.775 0.862	19.7 21.9	0.47 0.58	315 386	395 466	30 30	30 28
571-31-3390 571-31-3264	8(7X) (8.36mm ²)	3 4	45	3#14 10	0.50 0.58	12.7 14.7	0.71 0.80	18.0 20.3	50 50	1.27 1.27	0.81 0.90	20.6 22.9	0.52 0.64	385 465	420 495	55 44	50 40
571-31-3604 571-31-3605	6(7X) (13.3mm ²)	3 4	60	3#12 8	0.646 0.746	16.4 18.9	0.886 1.020	22.5 25.9	50 50	1.27 1.27	0.996 1.130	25.3 28.7	0.78 1.00	569 702	649 782	75 60	65 52
571-31-3607 571-31-3609	4(7X) (21.2mm ²)	3 4	60	3#12 8	0.756 0.836	19.2 21.2	0.972 1.063	24.7 27.0	50 50	1.27 1.27	1.082 1.173	27.5 29.8	0.92 1.08	755 917	835 997	95 76	85 68
571-31-3610 571-31-3611	2(7X) (33.6mm ²)	3 4	60	3#10 6	0.875 0.998	22.2 25.3	1.106 1.236	28.1 31.4	50 50	1.27 1.27	1.216 1.346	30.9 34.2	1.16 1.42	1067 1336	1173 1442	130 104	115 92
571-31-3612 571-31-3613	1(19X) (42.4mm ²)	3 4	80	3#10 6	1.041 1.159	26.4 29.4	1.288 1.421	32.7 36.1	50 50	1.27 1.27	1.398 1.531	35.5 38.9	1.53 1.84	1318 1631	1424 1774	145 116	130 104
571-31-3614 571-31-3615	1/0(19X) (53.5mm ²)	3 4	80	3#10 6	1.119 1.243	28.4 31.6	1.374 1.514	34.9 38.5	50 50	1.27 1.27	1.484 1.646	37.7 41.8	1.73 2.13	1566 1997	1709 2140	170 136	150 120
571-31-3616 571-31-3617	2/0(19X) (67.4mm ²)	3 4	80	3#10 6	1.200 1.348	30.5 34.2	1.465 1.644	37.2 41.8	50 60	1.27 1.52	1.575 1.776	40.0 45.1	1.95 2.48	1851 2379	1994 2566	195 156	175 140
571-31-3618 571-31-3619	4/0(19X) (107mm ²)	3 4	80	3#8 4	1.434 1.591	36.4 40.4	1.739 1.915	44.2 48.6	60 60	1.52 1.52	1.871 2.047	47.5 52.0	2.75 3.29	2830 3577	3017 3869	260 208	230 184
571-31-3620 571-31-3621	250(37X) (127mm ²)	3 4	90	3#8 4	1.558 1.758	39.6 44.7	1.868 2.101	47.4 53.4	60 60	1.52 1.52	2.000 2.233	50.8 56.7	— —	3298 4236	3554 4528	290 232	255 185
571-31-3622 571-31-3623	350(37X) (177mm ²)	3 4	90	3#7 3	1.759 1.969	44.7 50.0	2.101 2.318	53.4 58.9	60 75	1.52 1.90	2.233 2.480	56.7 63.0	— —	4396 5716	4796 6286	350 280	310 248
571-31-3624 571-31-3625	500(37X) (253mm ²)	3 4	90	3#6 2	2.012 2.252	51.1 57.2	2.361 2.623	60.0 66.6	75 75	1.90 1.90	2.523 2.785	64.1 70.7	— —	6061 7787	6631 8497	430 344	380 304
571-31-3626 571-31-3627	750(61X) (380mm ²)	3 4	90	3#5 1	2.386 2.656	60.6 67.5	2.796 3.111	71.0 79.0	75 85	1.90 2.16	2.958 3.295	75.1 83.7	— —	8762 11471	9524 12549	535 428	475 380
571-31-3628 571-31-3629	1000(61X) (507mm ²)	3 4	90	1/0 1/0	2.703 3.070	68.7 78.0	3.156 3.625	80.2 92.1	85 85	2.16 2.16	3.340 3.809	84.8 96.7	— —	11502 15157	12580 17555	615 492	545 436

Okonite's web site, www.okonite.com contains the most up to date information.

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600V Composite Power and Control Cable — Aluminum Sheath

Okoseal Jacket: 50 mils (1.27mm)

Catalog Number	Power Conductors Number x Size		Insulation Thickness - mils		Control Conductors Number x Size		Insulation Thickness - mils		Grounding Conductor (AWG)		C-L-X O.D. - Inches	C-L-X O.D. - mm	Cable O.D. - Inches	Cable O.D. - mm	Cross-Sectional Area (sq. in.) †	Approx. Net Weight lbs./1000'	Approx. Ship Weight lbs./1000'	90°C Wet or Dry CEC Ampacity (1)	75°C Wet CEC Ampacity (1)
546-31-3600	3X10	45	4X12	30	10	0.89	22.5	1.00	25.3	0.78	464	544	30	30					
571-31-3657	3X8	45	4X12	30	10	0.89	22.6	1.00	25.1	0.77	530	585	55	50					
571-31-3601	3X6	60	4X12	30	8	1.02	25.9	1.13	28.7	1.00	675	755	75	65					
571-31-3602	3X4	60	4X12	30	8	1.06	27.0	1.17	29.8	1.08	848	928	95	85					

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▲ **Authorized Stock Item** - Available from our Service Centers.

Copper or Bronze C-L-X is available on special order.

Jackets

Optional jacket types available - consult local sales office.

† **Cross-sectional** area for calculation of cable raceway fill in accordance with CEC Section 12-1606.

(1) Ampacities

Ampacities are based on Table 2 of the Canadian Electrical Code for conductors rated 90°C, in a multi-conductor cable, at an ambient temperature of 30°C (86F). The 75°C column is provided for additional information.

Derating for more than three current carrying conductors within the cable is in accordance with CEC Section 4-004.

The ampacities shown also apply to cables installed in cable tray in accordance with CEC Section 12-2202.

C-L-X CSAType RA90 HL

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Conductor Color Coding Sequence

Conductor Number	Base Color
1	Black
2	Red
3	Blue
4	Orange

Special Order: Any or all of the following conductors may be added when specifically requested by the customer to meet his specific application requirements.

Purpose	Base Color	Tracer Color
Equipment Grounding	Uninsulated Green Green	1 or more continuous yellow stripes
Grounded	White White White White White White White	Black continuous stripe Red continuous stripe Blue continuous stripe Orange continuous stripe Brown continuous stripe Numeric Printing

Sizes 14, 12 & 10 AWG:
Color Coding per ICEA Method 1, E-2 color sequence.

Sizes 8 AWG and larger:
Surface Printing of Numbers and color descriptions per ICEA Method 3, E-2 color sequence