



## Solid Type Bronze C-L-X®

### 15kV Paper Insulated Bronze Covered Power Cable

Three Copper Conductors/90°C Rating  
100% Insulation Level



- A Conductors - Stranded Compact Sector, Pre-twisted
- B Strand Screen - Carbon Black Paper Tapes
- C Insulation - Impregnated Paper Tapes
- D Insulation Screen - Carbon Black Paper Tapes
- E Shield - Copper Tape
- F Fillers - Impregnated Paper
- G Binder - Copper Tape
- H Inner Jacket - TPR
- J Sheath - Bronze C-L-X
- K Outer Jacket - TPR

#### Insulation

Okonite's impregnated paper insulation consists of the finest electrical grade paper made from coniferous wood pulp and the purest grade polybutene dielectric fluid. The paper is manufactured to Okonite's specifications to produce the necessary mechanical and physical properties to resist tearing and wrinkling during manufacture and subsequent handling during installation conditions; and in addition, to assure properties of low dielectric loss with high dielectric strength. Okonite pre-twists the sectors of 3/C cables before taping to virtually eliminate wrinkles at the cabling machine. To maintain a smooth, wrinkle-free precisely gapped tape insulation, Okonite carefully slits its own taping pads into widths tailored for each conductor size and wall thickness. Most important, Okonite has the latest taping machines with the most precise tape tension controls available today.

The impregnating fluid used is a high viscosity polybutene type, also manufactured to Okonite specifications. Polybutene dielectric fluids are better than natural petroleum based insulating fluids because they resist aging, have lower and more stable power factor values and possess an inherent tackiness which resists draining. Okonite's impregnation facilities clay-filter and degas the dielectric fluids to provide low power factors and stable ionization levels from voltage stress.

#### Sheath & Jacket

Okonite's inner jacket is a ThermoPlastic Rubber (TPR) that provides mechanical protection for the insulation and encapsulates the impregnant. The metallic sheath is comprised of commercial bronze sheet that is folded around the cable core, TIG welded and then corrugated. This Continuous Lightweight eXterior (C-L-X) provides an impervious barrier protecting the cable core from the environment. The bronze C-L-X has an inherently high fault current carrying capacity, typically eliminating the need for a separate ground wire. Okonite's TPR outer jacket provides mechanical and corrosion protection for the bronze sheath. The TPR material resists most chemicals, is more flexible than polyethylene and has a low coefficient of friction which when coupled with the lighter weight of a lead free cable greatly reduces pulling tensions.

#### Applications

Okonite Paper Insulated Bronze Covered cable is recommended for use in underground ducts, direct buried and aerially when lashed to a messenger. PIBC cables are used in any circuit that requires the highest reliability, the longest uninterrupted life and where the greatest surge, impulse and AC dielectric strength are desired. Because of the unique triangular shape and nested design a 3/C PIBC cable offers the added advantage of permitting large amounts of power to be transmitted in a small diameter cable.

Although not shown as an insulation above 600 Volts in the National Electric Code, it is readily approved by local inspectors because of its extensive safe use by utilities. Therefore, PIBC cables can be used in industrial or commercial applications with prior notification to and approval by the local inspector.

Also available in other voltage ratings and as a single conductor cable.

#### Specifications

Okonite PIBC cable cores are manufactured in accordance with and meet the requirements of AEIC CS1-90 11th Edition. The inner jacket, the bronze C-L-X and the outer jacket are manufactured to an Okonite Product Line Specification.

#### Product Features

- Pre-twisted conductors.
- Polybutene impregnating fluid.
- 90°C continuous operating temperature.
- 110°C emergency rating.
- 200°C short circuit rating.
- High impulse strength.
- The core has a proven service life of over 40 years.
- Impervious to the environment.
- Contains no lead.
- Lighter in weight than PILC cable.

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100% Insulation Level

# Product Data

## Section 2: Sheet 32

Catalog Number	Conductor Size AWG/kcmil		Conductor Size - mm <sup>2</sup>		Insulation Thickness - mils		Insulation Thickness - mm		Bronze C-L-X Thickness - mils		Outer Jacket Thickness - mils		Cable Diameter - Inches		Net Weight - lbs./ft.		Ampacities Duct (1)		Ampacities in Air (2)		
<b>Compact Sector</b>																					
101-68-4373	4/0	107.0	165	4.2	65	20	60	2.24	4.06	281	316										
101-68-4553	350	177.0	165	4.2	65	20	75	2.55	5.73	371	429										
101-68-4666	500	253.0	165	4.2	65	20	75	2.78	7.41	450	530										
101-68-4904	750	380.0	165	4.2	65	20	75	3.11	10.11	555	672										

### Ampacities

(1) One circuit, 90°C conductor, RHO 90 and 20°C earth ambient temperatures, 100% load factor.

(2) One circuit or multiple circuits spaced a cable diameter or more apart, 40°C ambient air temperature, 40 to 100% load factor.