



Solid Type PILC

15kV Paper Insulated Lead 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 Tape
- E Shield Copper Tape
- F Fillers-Impregnated Paper
- G Binder Copper Tape
- H Sheath-Copper Bearing Lead
- J Jacket-Okolene (PE)

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 pretwists 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 fluids used are of medium viscosity (high viscosity optional) polybutene types, 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 out of the paper tapes. 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 copper bearing lead sheath provides an impervious barrier from the environment; in addition, it provides mechanical protection for the insulation and encapsulation of the impregnant. All lead sheaths have the inherent capacity for substantial electrical conductivity, even under short circuit conditions without requiring a separate ground. Okonite's lead sheaths are applied with a continuous lead extruder under the control of a thickness gauge for uniform wall thickness and concentricity of extrusion.

The Okolene jacket provides mechanical and corrosion protection for the lead sheath and is used in most installations. (Indoor and aerial installations may not require a jacket). Okolene is a thermoplastic polyethylene material that resists most chemicals and moisture; it is unaffected by oils below 60°C and has a low

coefficient of friction which aids pulling through ducts and conduits.

Applications

Okonite Paper Insulated Lead Covered 3/C cable is recommended for use in underground ducts, direct buried, and aerially when lashed to a messenger. PILC cables are used in any circuit that requires the highest reliability, the longest uninterrupted service life, and where the greatest surge, impulse and AC dielectric strength is desired. An added advantage is that a 3/C PILC cable permits the largest amount of power to be transmitted in the smallest diameter space because of its unique triangle shaped and nested design.

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

Also available in other voltage ratings.

Specifications

Okonite PILC cables are manufactured in accordance with and meet the requirements of AEIC CS1-90 11th Edition.

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.
- Proven service life of over 40 years.
- Impervious to environment.
- Also available with LS/ZH Okoclear TP (TPPO) Okoseal (PVC) and ROC (Reinforced Okonite Covering).

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Product Data Section 2: Sheet 31

Catalog Number	Conductor Size AWG/kcmil	Conductor Size - mm ²	Insulation Thickness - mils	Insulation Thickness - mm	Lead Thickness - mils	Jacket Thickness - mils	Cable Thickness - mils	Cable Diameter - Inches	Net Weight - lbs./ft.	Ampacities Duct (1)	Ampacities in Air (2)
Concentric Round											
101-63-4120	2	33.6	180	4.6	90	90	1.88	4.77	146	149	
101-63-4175	1	42.4	165	4.2	90	90	1.97	4.97	167	171	
Compact Round											
101-63-4243	1/0	53.5	165	4.2	90	90	1.90	5.42	191	197	
Compact Sector											
101-63-4277	2/0	67.4	165	4.2	90	90	1.87	5.23	215	222	
101-63-4335	3/0	85.0	165	4.2	90	90	1.96	5.82	245	256	
101-63-4373	4/0	107.0	165	4.2	95	90	2.07	6.68	280	295	
101-63-4436	250	127.0	165	4.2	95	90	2.15	7.24	307	327	
101-63-4553	350	177.0	165	4.2	100	90	2.34	8.86	371	402	
▲ 101-63-4544	350	177.0	165	4.2	100	90	2.34	8.86	371	402	
101-63-4666	500	253.0	165	4.2	105	110	2.60	11.09	450	498	
▲ 101-63-4665	500	253.0	165	4.2	105	110	2.60	11.09	450	498	
101-63-4904	750	380.0	165	4.2	110	110	2.90	14.51	555	631	
101-63-4986	1000	507.0	165	4.2	120	110	3.18	18.08	636	740	

▲ **Authorized Stock Item.** Stock Items with copper shield tapes, copper binder tape and high viscosity polybutene impregnating fluid. Available from our Customer Service Centers.

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.