



# Okonite Communication Cable Underground Installations

## Type KTTG-F-B

Multiple Copper Conductors



- A Solid Uncoated Copper Conductors
- B Color Coded Insulation
- C Filling Compound
- D Non-hygroscopic Core Tape
- E Flooding Compound
- F Inner Polyethylene Jacket
- G Gopher Resistant Bi-Metallic Shield
- H Outer Polyethylene Jacket

### Insulation

Polyolefin compound color coded per U.S. telephone industry standards with color concentrates chosen for permanency and electrical balance of individual circuits.

### Pairs, Assembly and Fill

**Pairs:** Insulated conductors twisted into pairs of specified color combinations to provide pair identification as well as low susceptibility to noise pick-up, and with varying lay lengths to minimize crosstalk.

The average pair lay length is limited to 6 inches (15cm) to avoid split pairs in field splicing or circuit rearrangements.

**Core Assembly:** Pairs assembled, as required by pair count and geometry, into concentric sub-units of less than 25 pairs, concentric 25 pair units, and 50 or 100 pair super-units, which are then formed into cable core in such a manner as to avoid parallelism of like twist pairs in outside layers of adjacent units for control of unit to unit crosstalk and to ensure cable flexibility as well as circular core with uniform distribution of pairs.

Each 25-pair group in the cable core is identified by color coded non-hygroscopic binders.

**Cable Core Fill:** A petroleum jelly base multi-component filling compound completely fills the cable core space between insulated conductors and between the core and the core wrap including the core wrap tape overlap. The filling compound is especially designed to prevent moisture or water entry and migration transversely and longitudinally in the cable core. High immunity to moisture and water penetration is enhanced through high adhesion and cohesive properties of the compound.

**Core Wrap:** A non-hygroscopic polymeric tape applied with overlap over the cable core to ensure high dielectric strength from cable core to shield, enhance mechanical properties of the cable, and provide thermal barrier for cable jacket extrusion operation.

The space between the core tape and the inner jacket, is filled with specially formulated flooding compound which is designed to prevent moisture and/or water entry and migration.

**Inner Jacket:** Virgin, black, high molecular weight polyethylene copolymer jacket provides additional mechanical properties and dielectric strength between the cable core

and the shield. The inner jacket also provides additional moisture or water ingress protection in case of outer jacket damage during cable installation or service.

**Shield/Armor:** (KTTG-F-B) 0.005 inch thick, corrugated bimetal tape, consisting of metallurgically bonded 0.8 mils Cu, 3.4 mils Fe and 0.8 mils Cu, applied longitudinally with overlap. Corrugations designed to enhance cable flexibility and to minimize shield/armor metal fatigue.

**Outer Jacket:** Virgin black, high molecular weight polyethylene copolymer jacket extruded overall. The jacket compound is selected for high resistance to abrasion, weathering, exposure to sunlight, temperature extremes, environmental stress cracking, and mechanical stresses encountered during cable installation and service. The jacket outer surface is sequentially marked at two-foot intervals with cable type, year of manufacture, footage, pair count, size, and manufacturer.

**Shield/Armor:** The bi-metallic shield/armor design makes the cables especially suitable for direct burial installations in gopher infested areas or in rocky terrain. The cables are totally filled to prevent moisture and/or water entry and migration during service life of the cables, and consequently assuring little, if any, change in transmission characteristics of Okonite's filled cables.

All cable components including insulation and filling compound are highly compatible with each other, assuring stability of electrical and physical properties of the cables within their expected 40-year service life.

### Applications

Type KTTG-F-B filled cables are designed for exchange area or trunk service and are primarily intended for direct burial installation. These cables may also be used in underground duct installations.

### Specifications

**Conductors:** Solid uncoated copper per ASTM B-3.

**Insulation:** Polyolefin per ICEA, REA PE-39. REA designation BFCY.

**Jacket:** Okolene (PE), meets or exceeds requirements of ICEA S-95-658, Part 4.1.6

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## Product Data Section 7: Sheet 23

### Polyolefin Insulation:

Catalog Number	Size AWG	No. of Pairs	Inner Jacket Thickness, mils	Outer Jacket Thickness, mils	Approx. O.D. Inches	Approx Net Wt. Lbs./M'	Approx. Ship Wt. Lbs./M'
▲ 709-07-3025	22	25	30	60	0.80	320	476
▲ 709-07-4006	19	6	30	60	0.66	202	222
▲ 709-07-4012	19	12	30	60	0.81	322	346
▲ 709-07-4018	19	18	30	60	0.94	437	476
▲ 709-07-4025	19	25	30	60	1.07	576	638
709-07-4050	19	50	35	70	1.39	1013	1111

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

**Note:** Dimensions and weights are approximate.

Please contact your Okonite Representative for exact information.

Catalog numbers shown are for 0.005" Bi-metallic armor.