



Specifications

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|----------------------|---|
| Conductor | Solid annealed copper |
| Insulation | Solid polyolefin; color coded in accordance with industry standards |
| Twisted Pairs | Individual insulated conductors; twisted into pairs with varying lay lengths; specific color combinations provide pair identification |
| ≤ 25-Pair Core | Pairs are assembled into a cylindrical core |
| > 25-Pair Core | Cables larger than 25-pair are assembled into units, which are then used to assemble the core; units are identifiable using color-coded binders |
| Filling Compound | 80°C ETPR compound, completely filling the interstices between the pairs and under the core wrap |
| Core Wrap | Non-hygroscopic, dielectric tape applied over the core |
| Shield | Corrugated, 5 mil copper tape is applied longitudinally with an overlap; shield interfaces are flooded |
| Jacket | Black, polyethylene |
| Jacket Marking | Identifying information includes a telephone handset, cable code, pair count, AWG, date of manufacture and sequential length markings at 2 foot intervals |
| Standards Compliance | ANSI/ICEA S-84-608-2007 RDUP 7 CFR 1755.390 (PE-39) RoHS-compliant |

Product Description

CUPIC®-F Cables are designed for use in low risk duct or direct burial applications. CUPIC-F may be used aerially, but must be attached to a support strand.

Applications

- Low risk direct burial
- Underground conduit
- Lashed aerial

Features

- Twisted into pairs with varying lay lengths
- Core wrap
- Filled core
- Fully flooded shield interfaces
- Black, polyethylene jacket

Benefits

- Minimizes crosstalk
- Provides thermal protection
- Moisture resistant
- Inhibits corrosion and water migration
- Provides a tough, protective covering designed to withstand exposure to direct sunlight, atmospheric temperature changes and stresses expected in standard installations

Electrical Specifications

| Number of Pairs | Average Mutual Capacitance @1000 Hz nF/mile (nF/km) | Capacitance Unbalance Pair to Pair @ 1 kHz | | Capacitance Unbalance Pair to Ground @ 1 kHz | |
|-----------------|--|---|---------------------------------------|---|---|
| | | Maximum Individual pF @ 1 kft (pF @ 1 km) | Maximum RMS pF @ 1 kft (pF @ 1 km) | Maximum Individual pF @ 1 kft (pF @ 1 km) | Maximum Average pF @ 1 kft (pF @ 1 km) |
| 12 or less | 83 ± 7 (52 ± 4) | 80 (145) | - | 800 (2,625) | - |
| Over 12 | 83 ± 4 (52 ± 2) | 80 (145) | 25 (45) | 800 (2,625) | 175 (574) |

| Conductor Size AWG (mm) | Minimum Insulation Resistance @ 68°F (20°C) gigohm-mile (gigohm-km) | Maximum Average Attenuation* 772 kHz @ 68°F (20°C) dB/kft (dB/km) | Maximum Conductor Resistance @ 68°F (20°C) Ohms/sheath mile (km) | DC Resistance Unbalance Maximum % | | Dielectric Strength DC Potential – Volts | |
|----------------------------|---|--|---|--------------------------------------|--------------------|---|------------------------|
| | | | | Average | Individual Pair | Conductor to Conductor | Conductor to Shield |
| 19 (0.90) | 1.0 (1.6) | 2.8 (9.2) | 45.0 (28.0) | 1.5 | 5.0 | 7,000 | 15,000 |
| 22 (0.64) | 1.0 (1.6) | 4.0 (13.1) | 91.0 (56.5) | 1.5 | 5.0 | 5,000 | 15,000 |
| 24 (0.51) | 1.0 (1.6) | 5.0 (16.4) | 144.0 (89.5) | 1.5 | 5.0 | 4,000 | 15,000 |

*For cables of 12-pair or less, the maximum average attenuation may be increased by 10% over the values shown.

Minimum Near End Crosstalk (NEXT) @ 772 kHz

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|--------------------------|----|
| PSWUNEXT Mean (dB) | 47 |
| PSWUNEXT Worst Pair (dB) | 42 |

Minimum Far End Crosstalk (FEXT) @ 772 kHz

| | | | |
|------------------------------|----|----|----|
| Conductor Size (AWG) | 19 | 22 | 24 |
| PSELFEXT Mean (dB/kft) | 51 | 49 | 49 |
| PSELFEXT Worst Pair (dB/kft) | 45 | 43 | 43 |

Part Numbers and Physical Characteristics

| Part Number | Pair Count | AWG (mm) | Nominal Diameter in (mm) | Approx. Weight lbs/kft (kg/km) | Standard Length ft (m) | Approx. Shipping Weight lbs (kg) | Reel Size F x T x D in |
|-------------|------------|-----------|-----------------------------|-----------------------------------|---------------------------|--|------------------------------|
| 104-026-04 | 6 | 19 (0.90) | 0.54 (14) | 150 (225) | 5,000 (1,524) | 860 (390) | 44 x 18 x 20 |
| 104-028-04 | 12 | 19 (0.90) | 0.69 (18) | 255 (380) | 5,000 (1,524) | 1,440 (655) | 46 x 25 x 20 |
| 104-031-04 | 25 | 19 (0.90) | 0.92 (23) | 470 (700) | 5,000 (1,524) | 2,720 (1,235) | 65 x 30 x 32 |
| 104-034-04 | 50 | 19 (0.90) | 1.22 (31) | 845 (1,260) | 5,000 (1,524) | 4,925 (2,235) | 78 x 40 x 39 |
| 104-038-04 | 100 | 19 (0.90) | 1.69 (43) | 1,620 (2,410) | 2,500 (762) | 4,750 (2,155) | 78 x 40 x 39 |
| 104-057-04 | 6 | 22 (0.64) | 0.43 (11) | 95 (140) | 5,000 (1,524) | 540 (245) | 36 x 18 x 14 |
| 104-059-04 | 12 | 22 (0.64) | 0.53 (14) | 145 (215) | 5,000 (1,524) | 835 (380) | 44 x 18 x 20 |
| 104-062-04 | 25 | 22 (0.64) | 0.68 (17) | 255 (380) | 5,000 (1,524) | 1,440 (655) | 46 x 25 x 20 |
| 104-065-04 | 50 | 22 (0.64) | 0.89 (23) | 450 (670) | 5,000 (1,524) | 2,495 (1,130) | 58 x 25 x 20 |
| 104-069-04 | 100 | 22 (0.64) | 1.19 (30) | 815 (1,215) | 5,000 (1,524) | 4,690 (2,125) | 72 x 35 x 36 |
| 104-073-04 | 200 | 22 (0.64) | 1.63 (41) | 1,550 (2,305) | 2,500 (762) | 4,490 (2,035) | 72 x 35 x 36 |
| 104-075-04 | 300 | 22 (0.64) | 1.97 (50) | 2,270 (3,380) | 2,500 (762) | 6,375 (2,890) | 78 x 40 x 39 |
| 104-077-04 | 400 | 22 (0.64) | 2.23 (57) | 2,960 (4,405) | 1,250 (381) | 4,315 (1,955) | 72 x 35 x 36 |
| 104-081-04 | 600 | 22 (0.64) | 2.72 (69) | 4,385 (6,525) | 1,250 (381) | 6,280 (2,850) | 84 x 40 x 42 |
| 104-083-04 | 900 | 22 (0.64) | 3.30 (84) | 6,490 (9,660) | 1,250 (381) | 9,290 (4,215) | 96 x 40 x 48 |
| 104-092-04 | 6 | 24 (0.51) | 0.38 (9.7) | 70 (105) | 5,000 (1,524) | 415 (190) | 36 x 18 x 14 |
| 104-094-04 | 12 | 24 (0.51) | 0.46 (12) | 110 (165) | 5,000 (1,524) | 660 (300) | 44 x 18 x 20 |
| 104-097-04 | 25 | 24 (0.51) | 0.58 (15) | 180 (270) | 5,000 (1,524) | 1,065 (485) | 46 x 25 x 20 |
| 104-100-04 | 50 | 24 (0.51) | 0.74 (19) | 305 (455) | 5,000 (1,524) | 1,730 (785) | 52 x 25 x 20 |
| 104-104-04 | 100 | 24 (0.51) | 0.98 (25) | 550 (820) | 5,000 (1,524) | 3,120 (1,415) | 65 x 30 x 32 |
| 104-108-04 | 200 | 24 (0.51) | 1.32 (34) | 1,015 (1,510) | 5,000 (1,524) | 5,775 (2,620) | 78 x 40 x 39 |
| 104-110-04 | 300 | 24 (0.51) | 1.59 (40) | 1,470 (2,190) | 2,500 (762) | 4,290 (1,945) | 72 x 35 x 36 |
| 104-112-04 | 400 | 24 (0.51) | 1.79 (46) | 1,905 (2,835) | 2,500 (762) | 5,460 (2,475) | 78 x 40 x 39 |
| 104-116-04 | 600 | 24 (0.51) | 2.18 (55) | 2,815 (4,190) | 1,250 (381) | 4,135 (1,875) | 72 x 35 x 36 |
| 104-118-04 | 900 | 24 (0.51) | 2.63 (67) | 4,135 (6,155) | 1,250 (381) | 5,870 (2,660) | 78 x 40 x 39 |
| 104-120-04 | 1,200 | 24 (0.51) | 3.00 (76) | 5,420 (8,065) | 1,000 (305) | 6,120 (2,775) | 78 x 40 x 39 |
| 104-121-04 | 1,500 | 24 (0.51) | 3.35 (85) | 6,730 (10,015) | 1,000 (305) | 7,905 (3,585) | 96 x 40 x 48 |
| 104-124-04 | 1,800 | 24 (0.51) | 3.63 (92) | 7,990 (11,890) | 1,000 (305) | 9,165 (4,155) | 96 x 40 x 48 |