

Control Cable 600 Volt Copper Conductors, Flame Retardant Cross Linked Polyethylene (FR-XLPE) Insulation Shielded Chlorinated Polyethylene Chloride (CPE) Jacket, Control Cable Conductor Identification Method 1 Table 1. Silicone Free



CONSTRUCTION:

1. Conductor: 7 strands class B compressed bare copper per ASTM B3 and ASTM B8
2. Insulation: Flame Retardant Cross Linked Polyethylene (FR-XLPE), 30 Mills thick for all cable sizes
3. Filler: Polypropylene filler on cables with 5 or less conductors
4. Binder: Polyester flat thread binder tape applied for cables with more than 5 conductors
5. LCT Shielding: 5 mils tape shield
6. Rip Chord: Rip chord for ease of jacket removal
7. Overall Jacket: Chlorinated Polyethylene Chloride (CPE)

APPLICATIONS AND FEATURES:

Uni-cable's 600 Volt control cables are suited for use in wet and dry areas, conduits, ducts, troughs, trays, direct burial, aerial supported by a messenger, and where superior electrical properties are desired. These cables are capable of operating continuously at the conductor temperature not in excess of 90° C for normal operation in wet and dry locations, 130° C for emergency overload, and 250° C for short circuit conditions. UL rated construction can be used in Class I, II, and III, Division 2 hazardous locations per NEC Article 501 and 502. UL rated constructions with 3 or more conductors are listed for exposed runs (TC-ER) per NEC 336.10.

SPECIFICATIONS:

- ASTM B3 Standard Specification for Soft or Annealed Copper Wire
- ASTM B8 Concentric-Lay-Stranded Copper Conductors
- UL 44 Thermoset-Insulated Wires and Cables
- UL 1277 Electrical Power and Control Tray Cables
- UL 1685 FT4 Vertical-Tray Fire Propagation and Smoke Release Test
- ICEA S-58-679 Control Cable Conductor Identification Method 1 Table 2
- ICEA S-73-532 Standard for Control, Thermocouple Extension and Instrumentation Cables
- ICEA S-95-658 (NEMA WC70) Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy
- IEEE 1202 FT4 Vertical Tray Flame Test (70,000 Btu/hr) and ICEA T-29-520 - (210,000 Btu/hr)
- VW-1 (Vertical-Wire) Flame Test

Table 1 – Physical and Electrical Data

| Con d. Size | Cond. Number | Diame ter Over Cond. | Insul. Thickn ess | Jacket Thickn ess | Appr ox. OD | Copper Weight | Approx. Weight | DC Resistan ce | AC Resistan ce @ 90°C | Min Bendi ng Radiu s | Allowa ble Ampac ity At 60°C * | Allowa ble Ampac ity 75°C * | Allowa ble Ampaci ty 90°C * |
|-------------|--------------|----------------------|-------------------|-------------------|-------------|---------------|----------------|----------------|-----------------------|----------------------|--------------------------------|-----------------------------|-----------------------------|
| AW G | No. | inch | mil | mil | inch | lb/1000ft | lb/1000ft | Ω/1000ft | Ω/1000ft | inch | Amp | Amp | Amp |
| 14 AWG | | | | | | | | | | | | | |
| 14 | 2 | 0.070 | 30 | 45 | 0.349 | 26 | 68 | 2.630 | 3.288 | 1.4 | 15 | 15 | 15 |
| 14 | 3 | 0.070 | 30 | 45 | 0.370 | 38 | 87 | 2.630 | 3.288 | 1.5 | 15 | 15 | 15 |

| | | | | | | | | | | | | | |
|--------|----|-------|----|----|-------|-----|------|-------|-------|-----|----|----|----|
| 14 | 4 | 0.070 | 30 | 45 | 0.403 | 51 | 109 | 2.630 | 3.288 | 1.6 | 14 | 15 | 15 |
| 14 | 5 | 0.070 | 30 | 45 | 0.440 | 64 | 132 | 2.630 | 3.288 | 1.8 | 14 | 15 | 15 |
| 14 | 6 | 0.070 | 30 | 45 | 0.479 | 77 | 155 | 2.630 | 3.288 | 1.9 | 14 | 15 | 15 |
| 14 | 7 | 0.070 | 30 | 45 | 0.479 | 90 | 171 | 2.630 | 3.288 | 1.9 | 12 | 15 | 15 |
| 14 | 8 | 0.070 | 30 | 45 | 0.519 | 102 | 195 | 2.630 | 3.288 | 2.1 | 12 | 15 | 15 |
| 14 | 9 | 0.070 | 30 | 60 | 0.588 | 115 | 236 | 2.630 | 3.288 | 2.4 | 12 | 15 | 15 |
| 14 | 10 | 0.070 | 30 | 60 | 0.638 | 128 | 266 | 2.630 | 3.288 | 2.6 | 9 | 11 | 12 |
| 14 | 12 | 0.070 | 30 | 60 | 0.659 | 154 | 303 | 2.630 | 3.288 | 2.6 | 9 | 11 | 12 |
| 14 | 15 | 0.070 | 30 | 60 | 0.730 | 192 | 371 | 2.630 | 3.288 | 2.9 | 9 | 11 | 12 |
| 14 | 19 | 0.070 | 30 | 60 | 0.768 | 243 | 446 | 2.630 | 3.288 | 3.1 | 9 | 11 | 12 |
| 14 | 20 | 0.070 | 30 | 60 | 0.808 | 256 | 475 | 2.630 | 3.288 | 3.2 | 9 | 11 | 12 |
| 14 | 25 | 0.070 | 30 | 80 | 0.937 | 320 | 619 | 2.630 | 3.288 | 3.7 | 8 | 9 | 11 |
| 14 | 30 | 0.070 | 30 | 80 | 0.991 | 384 | 719 | 2.630 | 3.288 | 4.0 | 8 | 9 | 11 |
| 14 | 37 | 0.070 | 30 | 80 | 1.067 | 474 | 862 | 2.630 | 3.288 | 5.3 | 7 | 8 | 10 |
| 12 AWG | | | | | | | | | | | | | |
| 12 | 2 | 0.087 | 30 | 45 | 0.384 | 41 | 90 | 1.660 | 2.075 | 1.5 | 20 | 20 | 20 |
| 12 | 3 | 0.087 | 30 | 45 | 0.408 | 61 | 118 | 1.660 | 2.075 | 1.6 | 20 | 20 | 20 |
| 12 | 4 | 0.087 | 30 | 45 | 0.445 | 81 | 148 | 1.660 | 2.075 | 1.8 | 16 | 20 | 20 |
| 12 | 5 | 0.087 | 30 | 45 | 0.487 | 102 | 181 | 1.660 | 2.075 | 1.9 | 16 | 20 | 20 |
| 12 | 6 | 0.087 | 30 | 45 | 0.532 | 122 | 214 | 1.660 | 2.075 | 2.1 | 16 | 20 | 20 |
| 12 | 7 | 0.087 | 30 | 45 | 0.532 | 143 | 237 | 1.660 | 2.075 | 2.1 | 14 | 17 | 20 |
| 12 | 8 | 0.087 | 30 | 60 | 0.607 | 163 | 288 | 1.660 | 2.075 | 2.4 | 14 | 17 | 20 |
| 12 | 9 | 0.087 | 30 | 60 | 0.651 | 183 | 324 | 1.660 | 2.075 | 2.6 | 14 | 17 | 20 |
| 12 | 10 | 0.087 | 30 | 60 | 0.709 | 204 | 365 | 1.660 | 2.075 | 2.8 | 10 | 12 | 15 |
| 12 | 12 | 0.087 | 30 | 60 | 0.732 | 244 | 419 | 1.660 | 2.075 | 2.9 | 10 | 12 | 15 |
| 12 | 15 | 0.087 | 30 | 60 | 0.813 | 305 | 516 | 1.660 | 2.075 | 3.3 | 10 | 12 | 15 |
| 12 | 19 | 0.087 | 30 | 80 | 0.896 | 387 | 657 | 1.660 | 2.075 | 3.6 | 10 | 12 | 15 |
| 12 | 20 | 0.087 | 30 | 80 | 0.942 | 407 | 699 | 1.660 | 2.075 | 3.8 | 10 | 12 | 15 |
| 12 | 25 | 0.087 | 30 | 80 | 1.043 | 509 | 860 | 1.660 | 2.075 | 5.2 | 9 | 11 | 13 |
| 12 | 30 | 0.087 | 30 | 80 | 1.104 | 611 | 1005 | 1.660 | 2.075 | 5.5 | 9 | 11 | 13 |
| 12 | 37 | 0.087 | 30 | 80 | 1.191 | 753 | 1211 | 1.660 | 2.075 | 6.0 | 8 | 10 | 12 |
| 10 AWG | | | | | | | | | | | | | |
| 10 | 2 | 0.111 | 30 | 45 | 0.431 | 65 | 124 | 1.040 | 1.300 | 1.7 | 30 | 30 | 30 |
| 10 | 3 | 0.111 | 30 | 45 | 0.459 | 97 | 165 | 1.040 | 1.300 | 1.8 | 30 | 30 | 30 |
| 10 | 4 | 0.111 | 30 | 60 | 0.502 | 178 | 210 | 1.040 | 1.300 | 4.5 | 24 | 28 | 30 |
| 10 | 4 | 0.111 | 30 | 60 | 0.641 | 174 | 300 | 1.040 | 1.300 | 4.4 | 24 | 28 | 30 |
| 10 | 5 | 0.111 | 30 | 60 | 0.581 | 162 | 273 | 1.040 | 1.300 | 2.3 | 24 | 28 | 30 |
| 10 | 6 | 0.111 | 30 | 60 | 0.632 | 194 | 323 | 1.040 | 1.300 | 2.5 | 24 | 28 | 30 |
| 10 | 7 | 0.111 | 30 | 60 | 0.632 | 227 | 358 | 1.040 | 1.300 | 2.5 | 21 | 24 | 28 |
| 10 | 8 | 0.111 | 30 | 60 | 0.685 | 259 | 410 | 1.040 | 1.300 | 2.7 | 21 | 24 | 28 |
| 10 | 9 | 0.111 | 30 | 60 | 0.736 | 291 | 461 | 1.040 | 1.300 | 2.9 | 21 | 24 | 28 |
| 10 | 10 | 0.111 | 30 | 60 | 0.803 | 324 | 519 | 1.040 | 1.300 | 3.2 | 15 | 17 | 20 |
| 10 | 12 | 0.111 | 30 | 80 | 0.984 | 389 | 600 | 1.040 | 1.300 | 3.3 | 15 | 17 | 20 |
| 10 | 15 | 0.111 | 30 | 80 | 0.964 | 486 | 777 | 1.040 | 1.300 | 3.9 | 15 | 17 | 20 |

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|----|----|-------|----|----|-------|------|------|-------|-------|-----|----|----|----|
| 10 | 19 | 0.111 | 30 | 80 | 1.014 | 615 | 941 | 1.040 | 1.300 | 5.1 | 15 | 17 | 20 |
| 10 | 20 | 0.111 | 30 | 80 | 1.067 | 648 | 1001 | 1.040 | 1.300 | 5.3 | 15 | 17 | 20 |
| 10 | 25 | 0.111 | 30 | 80 | 1.184 | 810 | 1236 | 1.040 | 1.300 | 5.9 | 13 | 15 | 18 |
| 10 | 30 | 0.111 | 30 | 80 | 1.254 | 971 | 1450 | 1.040 | 1.300 | 6.3 | 13 | 15 | 18 |
| 10 | 37 | 0.111 | 30 | 80 | 1.355 | 1198 | 1755 | 1.040 | 1.300 | 6.8 | 12 | 14 | 16 |