

# SPECIFICATION CONTROL DRAWING

44/0412

WIRE, RADIATION-CROSSLINKED, POLYALKENE-INSULATED,  
LIGHTWEIGHT, OUTER SPACE, 600 VOLT

5-25-11

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This specification sheet forms a part of the latest issue of Raychem Specification 44.

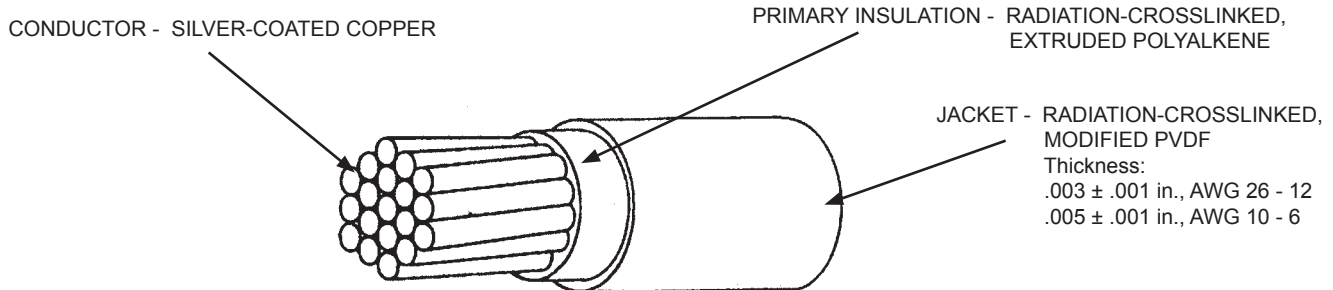


TABLE I. CONSTRUCTION DETAILS

| PART NUMBER<br>1/ | WIRE SIZE<br>(AWG) | CONDUCTOR STRANDING<br>(number x AWG) | MAXIMUM DIAMETER OF STRANDED CONDUCTOR<br>(in.) | FINISHED WIRE                                |                   |                                  |
|-------------------|--------------------|---------------------------------------|---|--|-------------------|----------------------------------|
|                   |                    |                                       |   | MAXIMUM RESISTANCE AT 20°C<br>(ohms/1000 ft) | DIAMETER<br>(in.) | MAXIMUM WEIGHT<br>(lbs/1000 ft.) |
| 44/0412-26-*      | 26                 | 7 x 34                                | .021  | 40.4   | .033 ± .002       | 1.3                              |
| 44/0412-24-*      | 24                 | 19 x 36                               | .025  | 24.3   | .039 ± .002       | 2.0                              |
| 44/0412-22-*      | 22                 | 19 x 34                               | .032  | 15.1   | .046 ± .002       | 3.0                              |
| 44/0412-20-*      | 20                 | 19 x 32                               | .040  | 9.19   | .054 ± .002       | 4.5                              |
| 44/0412-18-*      | 18                 | 19 x 30                               | .050  | 5.79   | .064 ± .002       | 7.0                              |
| 44/0412-16-*      | 16                 | 19 x 29                               | .057  | 4.52   | .071 ± .003       | 8.7                              |
| 44/0412-14-*      | 14                 | 19 x 27                               | .072  | 2.88   | .086 ± .004       | 13.7                             |
| 44/0412-12-*      | 12                 | 37 x 28                               | .089  | 1.90   | .108 ± .004       | 21.7                             |
| 44/0412-10-*      | 10                 | 37 x 26                               | .112  | 1.19   | .155 ± .005       | 35.7                             |
| 44/0412-8-*       | 8                  | 133 x 29                              | .169  | .658   | .214 ± .006       | 62.8                             |
| 44/0412-6-*       | 6                  | 133 x 27                              | .213  | .418   | .264 ± .007       | 99.3                             |

Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice. Tyco Electronics Corporation also reserves the right to make changes in materials or processing, which do not affect compliance with any specification, without notification to Buyer.

1/ COLORS AND COLOR CODE DESIGNATORS SHALL BE IN ACCORDANCE WITH MIL-STD-681. OTHER CODES AND SUFFIXES MAY BE ADDED TO THE PART NUMBER. AS NECESSARY, TO CAPTURE ANY ADDITIONAL REQUIREMENTS IMPOSED BY THE PURCHASE ORDER.

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DIMENSIONS ARE IN INCHES, AND UNLESS OTHERWISE DESIGNATED ARE NOMINAL.

THIS SPECIFICATION SHEET TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID.



Raychem Wire & Cable  
501 Oakside Avenue  
Redwood City, CA 94063-3800  
Phone: 1-800-227-8816  
Fax: 1-650-361-6297

**TABLE II. PERFORMANCE DETAILS**

| PART NUMBER<br>1/ | BEND TESTING                                     |              |      |                         |                                    |               |              |
|-------------------|--|--------------|------|-------------------------|------------------------------------|---------------|--------------|
|                   | MANDREL DIAMETER<br>(inch) (± 3%)                |              |      |                         | WEIGHT<br>(lb) (± 3%)              |               |              |
|                   | IMMERSION<br>LIFE CYCLE AND<br>ACCELERATED AGING | COLD<br>BEND | WRAP | RADIATION<br>RESISTANCE | IMMERSION AND<br>ACCELERATED AGING | LIFE<br>CYCLE | COLD<br>BEND |
| 44/0412-26-*      | .500   | .500         | .250 | .750                    | .125                               | .125          | .500         |
| 44/0412-24-*      | .500   | .500         | .250 | 1.00                    | .185                               | .125          | .500         |
| 44/0412-22-*      | .750   | .750         | .375 | 1.00                    | .185                               | .185          | 1.00         |
| 44/0412-20-*      | .750   | .750         | .375 | 1.25                    | .185                               | .185          | 1.00         |
| 44/0412-18-*      | 1.00   | 1.00         | .500 | 1.50                    | .250                               | .250          | 1.00         |
| 44/0412-16-*      | 1.00   | 1.00         | .500 | 1.50                    | .250                               | .250          | 1.00         |
| 44/0412-14-*      | 1.50   | 1.50         | .750 | 1.75                    | .500                               | .500          | 3.00         |
| 44/0412-12-*      | 2.00   | 2.00         | 1.00 | 2.50                    | .500                               | .500          | 3.00         |
| 44/0412-10-*      | 3.00   | 6.00         | 1.00 | 3.00                    | 2.00                               | 2.00          | 5.00         |
| 44/0412-8-*       | 3.00   | 8.00         | 1.00 | 4.00                    | 3.00                               | 3.00          | 6.00         |
| 44/0412-6-*       | 4.00   | 10.0         | 1.00 | 5.00                    | 3.00                               | 3.00          | 10.0         |

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 135°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

ACCELERATED AGING: 225 ± 2°C for 6 hours

BLOCKING: 150 ± 2°C for 24 hours

COLOR: White preferred

FLAMMABILITY: 30 seconds (maximum); 3 in. (maximum); no flaming of facial tissue

HUMIDITY RESISTANCE: Insulation Resistance,

AWG 26 - 10, 5000 megohms for 1000 ft. (minimum)

AWG 8 - 6, 500 megohms for 1000 ft. (minimum)

IDENTIFICATION AND COLOR STRIPING DURABILITY:

125 cycles (250 strokes) (minimum), 500 g weight

IMMERSION: Diameter increase 5% (maximum); no cracking, no dielectric breakdown.

INSULATION ELONGATION AND TENSILE STRENGTH:

Primary Insulation,

Elongation, 150% (minimum)

Tensile Strength, AWG 26-12, 2500 lbf/in<sup>2</sup> (minimum)

AWG 10-6, 2000 lbf/in<sup>2</sup> (minimum)

INSULATION FLAWS:

Primary Insulation,

Spark Test, 1.5 kV (rms)

Impulse Dielectric Test, 6.0 kV (peak)

Finished Wire,

Spark Test, 3.0 kV (rms) at 3 kHz

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION RESISTANCE: AWG 26-10, 5000 megohms for 1000 ft. (minimum)

AWG 8-6, 500 megohms for 1000 ft. (minimum)

LIFE CYCLE: 200 ± 2°C for 120 hours

LOW TEMPERATURE-COLD BEND: -65 ± 2°C for 4 hours

RADIATION RESISTANCE: 500 megarads

SHRINKAGE: 225 ± 2°C,

AWG 26-12, 0.125 in. (maximum) in 12 inches

AWG 10-6, 0.250 in. (maximum) in 12 inches

SMOKE TEST: 165 ± 2°C, no visible smoke.

SURFACE RESISTANCE: 500 megohms-in. (minimum), both readings

THERMAL SHOCK RESISTANCE: 135 ± 2°C, 0.060 in. (maximum)

VACUUM STABILITY:

Total Mass Loss (TML), 1.00% (maximum)

Volatile Condensable Material (VCM), 0.10% (maximum)

VOLTAGE WITHSTAND (Post Environmental):

2500 volts (rms), 60 Hz, 5 minutes; except for the following

AWG 26-24 Life Cycle only: 600 volts (rms), 60 Hz, 5 minutes

WICKING: 2.25 in. (maximum)

PART NUMBER: The "\*" in the part numbers on pages 1 and 2 shall be replaced by color code designators.

1/ Example: AWG 20, white: 44/0412-20-9

AWG 20, white with black stripe: 44/0412-20-90

1/ See footer section on page 1



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.