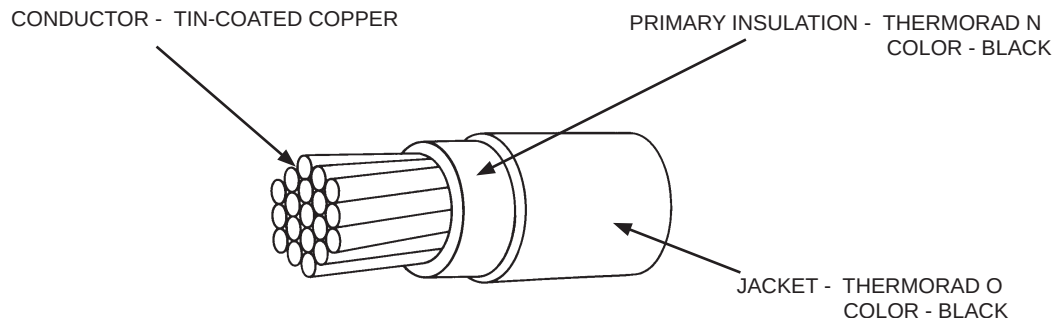


|                                                                                                                        |                                                          |      |         |          |    |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------|---------|----------|----|
| SPECIFICATION CONTROL DRAWING                                                                                          |                                                          |      | 10603   |          |    |
| TITLE                                                                                                                  | SPECIAL PURPOSE HOOKUP WIRE, DOUBLE INSULATION, 600 VOLT | Date | 1-27-14 | Revision | AB |
| This specification sheet forms a part of the latest issue of Raychem Specification 35, to the extent specified herein. |                                                          |      |         |          |    |



| TABLE I. CONSTRUCTION DETAILS |                                      |                                          |                                                           |                                                     |                    |                                     |
|-------------------------------|--------------------------------------|------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------|--------------------|-------------------------------------|
| PART NUMBER<br><u>1/</u>      | WIRE<br>SIZE<br>(AWG)<br>or<br>(MCM) | CONDUCTOR<br>STRANDING<br>(number x AWG) | MAXIMUM<br>DIAMETER OF<br>STRANDED<br>CONDUCTOR<br>(inch) | FINISHED WIRE                                       |                    |                                     |
|                               |                                      |                                          |                                                           | MAXIMUM<br>RESISTANCE<br>AT 20°C<br>(ohms/1000 ft.) | DIAMETER<br>(inch) | MAXIMUM<br>WEIGHT<br>(lbs/1000 ft.) |
| 10603-14-0                    | 14                                   | 37 x 30                                  | .075                                                      | 3.11                                                | .175 ± .005        | 26.9                                |
| 10603-12-0                    | 12                                   | 37 x 28                                  | .089                                                      | 2.02                                                | .189 ± .006        | 32.6                                |
| 10603-10-0                    | 10                                   | 37 x 26                                  | .113                                                      | 1.26                                                | .213 ± .006        | 46.6                                |
| 10603-8-0                     | 8                                    | 133 x 29                                 | .173                                                      | .701                                                | .280 ± .008        | 79.6                                |
| 10603-6-0                     | 6                                    | 133 x 27                                 | .217                                                      | .445                                                | .324 ± .010        | 115.                                |
| 10603-4-0                     | 4                                    | 133 x 25                                 | .274                                                      | .280                                                | .380 ± .011        | 170.                                |
| 10603-2-0                     | 2                                    | 665 x 30                                 | .340                                                      | .183                                                | .466 ± .014        | 269.                                |
| 10603-0-0                     | 0                                    | 1045 x 30                                | .425                                                      | .116                                                | .560 ± .017        | 404.                                |
| 10603-00-0                    | 00                                   | 1330 x 30                                | .475                                                      | .091                                                | .616 ± .018        | 503.                                |
| 10603-000-0                   | 000                                  | 1665 x 30                                | .540                                                      | .071                                                | .669 ± .020        | 609.                                |
| 10603-0000-0                  | 0000                                 | 2109 x 30                                | .605                                                      | .056                                                | .803 ± .024        | 815.                                |
| 10603-250-0                   | 250                                  | 2499 x 30                                | .716                                                      | .045                                                | .932 ± .028        | 1044.                               |
| 10603-350-0                   | 350                                  | 3458 x 30                                | .840                                                      | .032                                                | 1.066 ± .032       | 1415.                               |

|                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                    |  |                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice.<br>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 SHALL BE IN ACCORDANCE WITH MIL-STD-681. OTHER CODES AND SUFFIXES MAY BE ADDED TO THE PART NUMBER, AS NECESSARY,<br>TO CAPTURE ANY ADDITIONAL REQUIREMENTS IMPOSED BY THE PURCHASE ORDER.                                                                                                                         |                                                                                                                                                                    |  |                                                                                                                                                                                                                    |
| Page 1 of 2                                                                                                                                                                                                                                                                                                                 | Thermorad, Raychem, TE Connectivity, TE connectivity (logo), and TE (logo) are trademarks.                                                                         |  | <br>Raychem Wire & Cable<br>501 Oakside Avenue<br>Redwood City, CA 94063-3800<br>Phone: 1-800-227-8816<br>Fax: 1-650-361-6297 |
|                                                                                                                                                                                                                                                                                                                             | DIMENSIONS ARE IN INCHES AND, UNLESS OTHERWISE DESIGNATED, ARE NOMINAL.                                                                                            |  |                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                             | THIS SPECIFICATION SHEET TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.<br>REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID. |  |                                                                                                                                                                                                                    |



# SPECIFICATION CONTROL DRAWING

Page 2 of 2

Revision  
ABSCD Number  
**10603**

TABLE II. PERFORMANCE DETAILS

| PART NUMBER<br><u>1/</u> | BEND TESTING                                       |              |                                                    |              |
|--------------------------|----------------------------------------------------|--------------|----------------------------------------------------|--------------|
|                          | MANDREL DIAMETER<br>(inches) ( $\pm 3\%$ )         |              | WEIGHT<br>(lbs) ( $\pm 3\%$ )                      |              |
|                          | IMMERSION,<br>LIFE CYCLE, AND<br>ACCELERATED AGING | COLD<br>BEND | IMMERSION,<br>LIFE CYCLE, AND<br>ACCELERATED AGING | COLD<br>BEND |
| 10603-14-0               | 3.00                                               | 3.00         | 2.00                                               | 5.00         |
| 10603-12-0               | 3.00                                               | 3.00         | 2.00                                               | 6.00         |
| 10603-10-0               | 3.00                                               | 3.00         | 2.00                                               | 6.00         |
| 10603-8-0                | 3.00                                               | 3.00         | 2.00                                               | 10.0         |
| 10603-6-0                | 4.00                                               | 4.00         | 2.00                                               | 10.0         |
| 10603-4-0                | 6.00                                               | 6.00         | 3.00                                               | 15.0         |
| 10603-2-0                | 8.00                                               | 8.00         | 3.00                                               | 15.0         |
| 10603-0-0                | 10.0                                               | 10.0         | 4.00                                               | 20.0         |
| 10603-00-0               | 12.0                                               | 12.0         | 6.00                                               | 30.0         |
| 10603-000-0              | 13.5                                               | 13.5         | 6.00                                               | 30.0         |
| 10603-0000-0             | 15.0                                               | 15.0         | 6.00                                               | 30.0         |
| 10603-250-0              | 18.5                                               | 18.5         | 6.00                                               | 30.0         |
| 10603-350-0              | 21.0                                               | 21.0         | 6.00                                               | 30.0         |

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 125°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

ACCELERATED AGING: 175  $\pm$  4°C for 4 hours

CONCENTRICITY: 70% (minimum)

FLAMMABILITY: Self extinguishing within 60 seconds (maximum), 25% (maximum) of flag burned; no flaming of cotton

INSULATION ELONGATION AND TENSILE STRENGTH:

Each Layer,

Elongation, 100% (minimum)

Tensile Strength, 1500 lbf/in<sup>2</sup> (minimum)

INSULATION FLAWS:

Spark Test, 5.7 kV (rms) at 3 kHz

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION RESISTANCE:

100 megohms for 1000 ft. (minimum)

JACKET THICKNESS: .0300 in. (nominal), AWG 14-10

.0375 in. (nominal), AWG 8-4

.0400 in. (nominal), AWG 2-000

.0600 in. (nominal), AWG 0000-350 MCM

LIFE CYCLE: 150  $\pm$  3°C for 96 hoursLOW TEMPERATURE-COLD BEND: -55  $\pm$  2°C for 4 hours

OIL RESISTANCE:

Brayco 883 (or Royco 770) per MIL-PRF-46170, 20% (maximum) swell after 20 hours at 90°C;

SAE Grade 15W-40 Lubricating Oil per MIL-PRF-2104, 20% (maximum) swell after 20 hours at 90°C;

SAE Grade 30 Lubricating Oil, 20% (maximum) swell after 20 hours at 90°C

SHRINKAGE: 150  $\pm$  3°C for 4 hours, 0.5 in. (maximum) sum of both ends

VOLTAGE WITHSTAND (Post Environmental): 3000 volts (rms)

Replaces 34/7010

1/ See footer section on page 1