

# SPECIFICATION CONTROL DRAWING

**55/0114**TITLE WIRE, RADIATION-CROSSLINKED, MODIFIED ETFE INSULATED,  
LIGHTWEIGHT, OUTER SPACE, 600 VOLT

Date 2-28-05

Revision E

This specification sheet forms a part of the latest issue of Raychem Specification 55/.

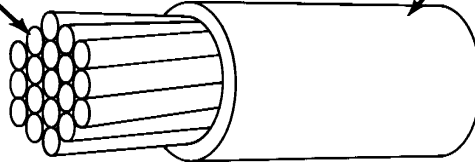
CONDUCTOR- SILVER-COATED HIGH  
STRENGTH COPPER ALLOYJACKET - LOW OUTGASSING,  
RADIATION-CROSSLINKED,  
MODIFIED ETFE

TABLE I. CONSTRUCTION DETAILS

| PART NUMBER<br>1/ | WIRE<br>SIZE<br>(AWG) | CONDUCTOR<br>STRANDING<br>(number x AWG) | DIAMETER OF<br>STRANDED<br>CONDUCTOR<br>(in.) |         | FINISHED WIRE                                        |                   |                                   |
|-------------------|-----------------------|------------------------------------------|-----------------------------------------------|---------|------------------------------------------------------|-------------------|-----------------------------------|
|                   |                       |                                          | MINIMUM                                       | MAXIMUM | MAXIMUM<br>RESISTANCE<br>AT 20°C<br>(ohms /1000 ft.) | DIAMETER<br>(in.) | MAXIMUM<br>WEIGHT<br>(lb/1000 ft) |
|                   |                       |                                          |                                               |         |                                                      |                   |                                   |
| 55/0114-30-*      | 30                    | 7 x 38                                   | .011                                          | .012    | 117.4                                                | .024 ± .002       | .66                               |
| 55/0114-28-*      | 28                    | 7 x 36                                   | .014                                          | .016    | 74.4                                                 | .027 ± .002       | .91                               |
| 55/0114-26-*      | 26                    | 19 x 38                                  | .018                                          | .020    | 44.8                                                 | .032 ± .002       | 1.4                               |
| 55/0114-24-*      | 24                    | 19 x 36                                  | .023                                          | .025    | 28.4                                                 | .037 ± .002       | 2.0                               |
| 55/0114-22-*      | 22                    | 19 x 34                                  | .029                                          | .031    | 17.5                                                 | .043 ± .002       | 2.9                               |
| 55/0114-20-*      | 20                    | 19 x 32                                  | .037                                          | .039    | 10.7                                                 | .050 ± .002       | 4.4                               |
| 55/0114-18-*      | 18                    | 19 x 30                                  | .046                                          | .050    | 6.8                                                  | .060 ± .002       | 6.5                               |
| 55/0114-16-*      | 16                    | 19 x 29                                  | .052                                          | .057    | 5.3                                                  | .068 ± .002       | 8.3                               |

TABLE II. PERFORMANCE DETAILS

| PART NUMBER<br>1/ | BEND TESTING                      |                        |
|-------------------|-----------------------------------|------------------------|
|                   | MANDREL DIAMETER<br>(inch) (± 3%) | WEIGHT<br>(lb) (± 3%)  |
|                   | CROSSLINK VERIFICATION            | CROSSLINK VERIFICATION |
|                   |                                   |                        |
| 55/0114-30-*      | .250                              | .125                   |
| 55/0114-28-*      | .250                              | .125                   |
| 55/0114-26-*      | .375                              | .125                   |
| 55/0114-24-*      | .375                              | .250                   |
| 55/0114-22-*      | .500                              | .375                   |
| 55/0114-20-*      | .500                              | .500                   |
| 55/0114-18-*      | .500                              | .500                   |
| 55/0114-16-*      | .750                              | .750                   |

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 200°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

CROSSLINK VERIFICATION: 300 ± 3°C for 1 hour

COLOR: White preferred

IDENTIFICATION AND COLOR STRIPING DURABILITY:

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

INSULATION ELONGATION: 50% (minimum)

INSULATION FLAWS:

Spark Test, 3.0 kV (rms)

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION THICKNESS: .005 in. (minimum)

RADIATION RESISTANCE: 500 megarads

SHRINKAGE: 230 ± 3°C for 1 hour, 0.125 in. (maximum) in 12 in.

VACUUM STABILITY:

Total Mass Loss (TML), 1.0% (maximum)

Volatiles Condensable Material, 0.1% (maximum)

VOLTAGE WITHSTAND TEST (Post Environmental):

2500 volts (rms), 60 Hz, 5 minutes

PART NUMBER:

The "\*" in the part numbers above shall be replaced by color  
code designators.

1/ Example: AWG 20, white: 55/0114-20-9

Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice.  
Tyco Electronics 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.

**tyco**

Electronics

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

Page 1 of 1

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.