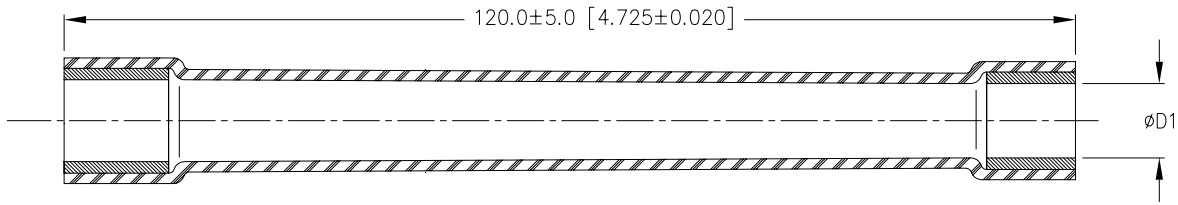
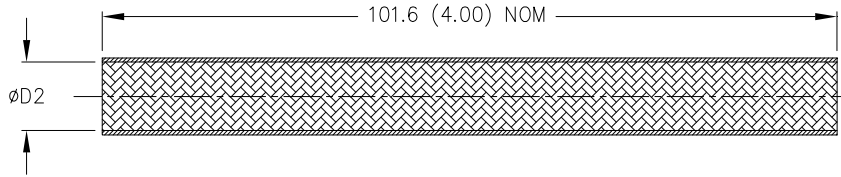


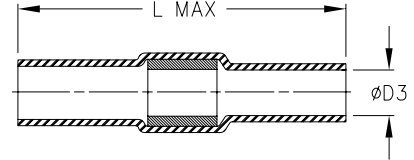
# SPECIFICATION CONTROL DRAWING



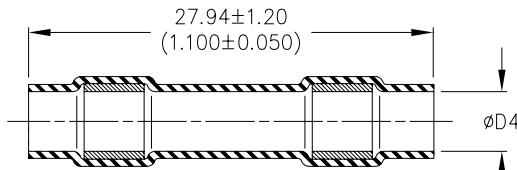
**1) CABLE SEALING SLEEVE**



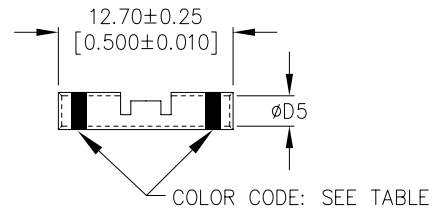
**2) JUMPER BRAID**



**3) SOLDER SLEEVE, Qty/kit.: 2**



**4) CRIMP SEALING SLEEVE, Qty/kit.: see table**



**5) CRIMP SPLICE, Qty/kit.: see table**

Product Name	Qty: Item 4 & 5	AWG Range	Color Code	Product Dimensions					
				ØD1 min	ØD2	ØD3 min	ØD4 min	ØD5 min	L max
D-200-0228-NF	1	26 - 20	Red	4.20 [0.165]	3.81 [0.150]	2.70 [0.106]	2.79 [0.110]	1.14 [0.045]	18.2 [0.715]
D-200-0229-NF	1	20 - 16	Blue	5.00 [0.196]	3.81 [0.150]	4.50 [0.177]	4.00 [0.157]	1.63 [0.064]	18.2 [0.715]
D-200-0230-NF	1	16 - 12	Yellow	7.50 [0.295]	4.34 [0.170]	6.00 [0.236]	4.32 [0.170]	2.46 [0.097]	20.8 [0.819]
D-200-0231-NF	2	26 - 20	Red	5.00 [0.196]	4.34 [0.170]	4.50 [0.177]	2.16 [0.085]	1.14 [0.045]	18.2 [0.715]
D-200-0232-NF	2	18 - 16	Blue	7.50 [0.295]	6.35 [0.250]	6.00 [0.236]	2.79 [0.110]	1.63 [0.064]	20.8 [0.819]
D-200-0233-NF	2	14	Yellow	7.50 [0.295]	6.35 [0.250]	7.00 [0.275]	4.32 [0.170]	2.46 [0.097]	20.8 [0.819]
D-200-0234-NF	2	12	Yellow	9.80 [0.385]	8.00 [0.315]	8.60 [0.338]	4.32 [0.170]	2.46 [0.097]	24.5 [0.965]
D-200-0235-NF	4	26 - 24	Red	5.00 [0.196]	4.34 [0.170]	4.50 [0.177]	2.16 [0.085]	1.14 [0.045]	18.2 [0.715]
D-200-0236-NF	4	22 - 20	Red	7.50 [0.295]	6.35 [0.250]	6.00 [0.236]	2.16 [0.085]	1.14 [0.045]	20.8 [0.819]
D-200-0237-NF	4	18 - 16	Blue	7.50 [0.295]	6.35 [0.250]	7.00 [0.275]	2.79 [0.110]	1.63 [0.064]	20.8 [0.819]
D-200-0238-NF	4	14 - 12	Yellow	9.80 [0.385]	8.00 [0.315]	8.60 [0.338]	4.32 [0.170]	2.46 [0.097]	24.5 [0.965]

**MATERIALS**

**1. CABLE SEALING SLEEVE:**

INSULATION SLEEVE: Heat-shrinkable, transparent blue, radiation cross-linked modified fluoropolymer. Color: black  
MELTABLE INSERTS: Environment resistant modified thermoplastic fluoroelastomer. Color: light blue.

**2. JUMPER BRAID: Nickel-plated copper wires.**

<b>tyco</b> <i>Electronics</i>	Tyco Electronics Corporation 300 Constitution Drive, Menlo Park, CA. 94025, U.S.A.	<i>Raychem</i>	TITLE: <b>SHIELDED CABLE SPLICE, FLEXIBLE, Ni-PLATED BRAID AND CRIMP, 200deg.C, RoHS COMPLIANT</b>			
Unless otherwise specified dimensions are in millimeters. [Inches dimensions are shown in brackets]			DOCUMENT NO.: <b>D-200-0228/-0238-NF</b>			
TOLERANCES: 0.00 N/A 0.0 N/A 0 N/A	ANGLES: N/A  ROUGHNESS IN MICRON	Tyco Electronics reserves the right to amend this drawing at any time. Users should evaluate the suitability of the product for their application.		REV.:  A	DATE:  8-Aug-06	
PREPARED BY: mforonda	DCR NUMBER: D050443	REPLACES: ---	CAGE CODE : 06090	SCALE: ---	SIZE: A	SHEET: 1 of 3

## SPECIFICATION CONTROL DRAWING

### 3. SOLDERSLLEEVE: Qty.: 2

INSULATION SLEEVE: Heat-shrinkable, transparent blue, radiation cross-linked modified fluoropolymer.

SOLDER PREFORM WITH FLUX:

SOLDER: TYPE Sn96 per ANSI / J-STD-006.

FLUX: TYPE ROM1 per ANSI / J-STD-004.

MELTABLE RINGS: Environment resistant modified thermoplastic fluoroelastomer. Color: light blue.

### 4. CRIMP SEALING SLEEVE: Qty.: see table.

INSULATION SLEEVE: Heat Heat-shrinkable, transparent blue, radiation cross-linked modified fluoropolymer.

MELTABLE INSERTS: Environment resistant modified thermoplastic fluoroelastomer. Color: light blue.

### 5. CRIMP SPLICE: Ni-plated copper. Color Code: see table, Qty.: see table.

Base Metal: Copper Alloy 101 or 102 per ASTM B-75.

Plating: Nickel per SAE AMS-QQ-N-290.

### APPLICATION

1. These kits may be used to obtain an immersion resistant cable splice. Both conductors and shield shall be nickel-plated and the cable rated for not less than 135°C.
2. Temperature rating: -65°C to + 200°C.
3. Install using a Raychem-approved hot-air heaters or equivalent. Use Raychem AD-1377 crimp tool (or equivalent tool) to install crimp barrel.

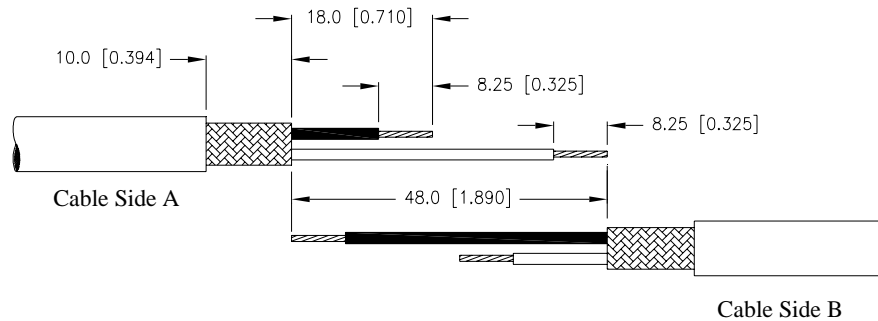
### INSTALLATION PROCEDURE

1. Cable preparation. See figure below (2-conductors shown).

Tolerances: All lengths  $\pm 0.50$  [0.020]

The short primary on cable side A is to be connected to the long primary on cable side B.

- a) -1 conductor cable: Remove cable jacket and shield: 33.0 [1.300]
- 2 to 4 conductors cable: Remove cable jacket and shield: 48.0 [1.890]
- b) -2 conductors: Cut primary of each cable 18.0 [0.710] from cable jacket.
- 3 conductors: Cut 2 primaries of cable A and 1 primary of cable B 18.0 [0.710] from cable jacket.
- 4 conductors: Cut 2 primaries of each cable 18.0 [0.710] from cable jacket.
- c) Strip primary: 8.25 [0.325]
- d) Remove cable jacket to exposed braid: 10.0 [0.394]



### 2. Application Equipment

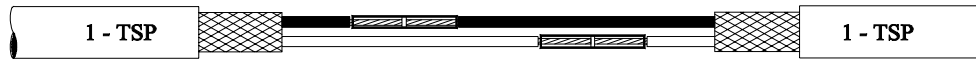
- a) AD-1377 crimp tool or equivalent.
- b) Steinel HL1802E Heat Gun with a soldersleeve reflector (Setting of 13 – 14)

Unless otherwise specified dimensions are in millimeters. [Inches dimensions are shown in brackets]

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## SPECIFICATION CONTROL DRAWING

### 3. Assembly Procedure



#### **WARNING**

Follow installation instructions carefully. Use adequate ventilation and avoid charring or burning during installation. Charring or burning the product will produce fumes that may cause eye, skin, nose and throat irritation. Consult Material Safety Data Sheets **RAY5104** for further information.

- a) Place the sealing sleeve on one end of the assembly.
- b) Place the SolderSleeve on each cable side.
- c) Place the Nickel Braid shield splice onto the other cable assembly.
- d) Primary Conductor Splice:
  - 1) Place a sealing sleeve onto the longer lead.
  - 2) Crimp primaries into opposite ends of the crimp splices using a calibrated Raychem AD-1377 crimp tool or equivalent.
  - 3) Center the sealing sleeves over the splices.
  - 4) Apply heat to the center of the sleeve until it recovers, and then heat ends until sealing rings melt and flow along wires.

*Note:* The heating tool and the assembly become hot during the installation.  
To prevent burns, allow tool and the assembly to cool down before handling.

- e) Inspection:
  - 1) Conductors must be visible at point where they enter the crimp barrel.
  - 2) Both indentations of a crimp must be on the crimp barrel.
  - 3) Sealing sleeve inserts must have flowed along wire insulation.
  - 4) Sleeve must not have discolored to the degree that the crimp barrel cannot be inspected.
  - 5) Sleeve must not be cut or split.
- f) Shield Splice:
  - 1) Center the Nickel Braid shield splice over the splice and the exposed cable shields. Trim off excess length (as required) so that it will not cover the cable jacket. The jumper braid should overlap the cable braid.
  - 2) Position the SolderSleeve over the end of the Nickel Braid and onto the cable jacket.
  - 3) Apply heat to the center of the SolderSleeves until the solder melts, flows and wets the cable shield
  - 4) Position the sealing sleeve and center to overlap the splice equally on each end. Apply heat to shrink the sealing Sleeve from the center towards each end.

Unless otherwise specified dimensions are in millimeters. [Inches dimensions are shown in brackets]

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