

MATERIALS

- 1. INSULATION SLEEVE: Heat-shrinkable, transparent blue, radiation cross-linked modified polyvinylidene flouride.
- 2. INTEGRAL MULTI-WIRE SEAL: Low outgassing immersion resistant thermoplastic fluoroelastomer. Color: BLUE.
- 3. SEPARATE MULTI-WIRE SEAL: Low outgassing immersion resistant thermoplastic fluoroelastomer. Color: BLUE.
- 4. CRIMP SPLICER: Base Metal: Copper Alloy 101 or 102 per ASTM B-75.
 - Plating: Tin per MIL-T-10727, Type 1. Color Code: See table below.

		Dimensions: Crimp Splice			Installation Data: Wire Size Range of Crimp Splicer				
Part	Prod.	I.D.±0.05	O.D.±0.08 Color Two Wires		Two Wires		Three	Wires	
Name	Rev.	(I.D.±0.002)	(O.D.±0.003)	Code	Minimum	Maximum	Minimum	Maximum	
D-436-42	F	1.70 (0.067)	2.62 (0.103)	Blue	2 x 24	2 x 20	3 x 24	3 x 22	
D-436-43	А	2.54 (0.100)	3.81 (0.150)	Yellow	2 x 22	2 x 16	3 x 22	3 x 18	

APPLICATION

- 1. These parts are designed to provide an immersion resistant in-line splices of 2 or 3 to 2 or 3 wires falling within the size range listed above, having insulations rated for at least 135°C.
- 2. Parts are available only as an assembly of one of each Item #1 and Item #2.
- 3. Crimp splicer may be installed with Raychem AD-1377 crimp tool or equivalent.
- 4. Inside diameter and outside diameter of splice are to be measured in crimp area, 2.54 to 5.08 (0.100 to 0.200) from ends of part. Slight burr permitted on parted surfaces.
- 5. Acceptance sampling shall be in accordance with paragraph 4.6.1 of MIL-T-7928.
- 6. Packing and packaging shall be in accordance with Section 5, Level C, of MIL-T-7928.
- 7. This document takes precedence over documents referenced herein.

		Raychem Devices		TITLE : IN-LINE SPLICE SEALING SYSTEM, MULTI-WIRE					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS. INCHES DIMENSIONS ARE BETWEEN BRACKETS.				DOCUMENT NO.	: D-436-	42/-43			
TOLERANCES:	ANGLES: 1	N/A	TE CONNECTIVITY CHANGE THIS DRA	(TE) RESERVES TH WING AT ANYTIME	HE RIGHT TO DATE: IE. USER SHOULD		2015	REVISION:	C
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DRAWN BY:		ECO.	APPROVED:	ECO NUMBER:		SCALE:		SIZE:	SHEET:
M. FORONDA L. 1		L.R	RODRIGUEZ	15-00)9842	None		А	1 of 4

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1.0 TEST ASSEMBLIES

The test assemblies for qualification testing shall be 3 to 3 in-line splices made in wire conforming to MIL-W-81044/12 or MIL-W-16878/4. The assemblies shall be divided equally between the maximum and minimum wire size as shown below:

Assembly	Minimum	Maximum
D-436-42	24	22
D-436-43	22	18

The qualification sample shall consists of 35 assemblies and 8 uninstalled sleeves.

1.1 Acceptance Testing:

Acceptance sampling shall be in accordance with ANSI/ASQC Z1.4, Inspection Level S-4. The Acceptable Quality Level shall be 4.0 for all defects. Acceptance tests shall consist of visual and dimensional examination.

2.0 QUALIFICATION TESTING:

Heat Aging

.1 All sleeves shall be tested for compliance with Sheet 1 in regard to:

Property	Test Method
Material and Appearance	Visual Examination
Dimensions	MIL-I-23053, Paragraph 4.6.3

2.2 Test Group A: Ten assemblies shall pass the post conditioning tests after conditioning in the sequence shown:

Post Conditioning	Requirement	Test Method
Insulation Resistance	5000 M @500V d-c	MIL-W-81044, Par. 4.7.5.2
Altitude Immersion	75,000 ft.	MIL-C-26500, Par. 4.7.21
Insulation Resistance	5000 M @500V d-c	MIL-W-81044, Par. 4.7.5.2
Dielectric Withstanding	2.5Kv (rms) for 1 min.	MIL-W-81044, Par. 4.7.5.1
Conditioning	Parameters	Test method
Altitude Immersion	75,000 ft.	MIL-C-26500, Par. 4.7.21
Immersion	Condition C	Method 104*
Temperature Cycling	-65°C to 150°C (5 cycles)	Method 102*
Moisture Resistance	Step 7b not required	Method 106*
Fluid Immersion	MIL-H-5606, MIL-L-7808	MIL-T-7928, Par. 4.8.8

lıl	TE		TE Conne	ctivity	Ray Dev	chem vices	TITLE : IN-LINE SYSTE	E SPLICE S EM, MULT	SEALING I-WIRE
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96 hours @200°C

Method 108*

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2.3 Test Group B: Ten Assemblies:

Test Sequence	Requirement	Test Method
Insulation Resistance	5000 M @500V d-c	MIL-W-81044, Par. 4.7.5.2
Vibration	MIL-STD-202, Method 201	MIL-T-7928, Par. 4.8.6
Insulation Resistance	5000 M @500V d-c	MIL-W-81044, Par. 4.7.5.2
Altitude Immersion	75,000 ft. (1 cycle)	MIL-C-26500, Par. 4.7.21
Insulation Resistance	5000 Megaohms	MIL-W-81044, Par. 4.7.5.2
Voltage Drop**	Wire Equivalent + 2.0 millivolts (maximum)	MIL-T-7928, Par. 4.8.1
Tensile Strength	Table II	MIL-T-7928, Par. 4.8.7

* Test methods are per MIL-STD-202.
** Test current shall be equal to 3X the rated current fot the smallest gauge wire used.

2.4 Test Group C: Ten Assemblies:

Test Sequence	Requirement	Test Method	
Insulation Resistance Salt Spray (Corrosion)***	5000 M @500V d-c	MIL-W-81044, Par. 4.7.5.2 MIL-T-7928, Par. 4.8.4	
Insulation Resistance	5000 M @500V d-c	MIL-W-81044, Par. 4.7.5.2	
Altitude Immersion	75,000 ft. (1 cycle)	MIL-C-26500, Par. 4.7.21	
Insulation Resistance	5000 M @500V d-c	MIL-W-81044, Par. 4.7.5.2	
Voltage Drop**	Wire Equivalent + 2.0 millivolts (maximum)	MIL-T-7928, Par. 4.8.1	
Tensile Strength	Table II	MIL-T-7928, Par. 4.8.7	
*** Lead ends to be sealed prior to2.5 Test Group D: Five Assen	o exposure. nblies:		
Test	Requirement	Test Method	
Flammability	Self Extinguishing within 15 seconds	MIL-T-7928, Par. 4.8.10	
2.6 Test Group E: Three Sleev	ves:		

Test	Requirement	Test Method
Corrosive Effect	Non-Corrosive	MIL-I-23053, Par. 4.6.10.2

1	F	TE Conne	ectivity	Ray Dev	chem vices	TITLE : IN-LINE SYSTE	E SPLICE S EM, MULT	SEALING I-WIRE
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2.7 Test Group F: Five Sleeves:

Test	Requirement	Test Method
Insulation Shrinkage	Sheet 1	MIL-I-23053, Par. 4.6.3.2.2
		(5 minutes @ 300°C)
Longitudinal Change	$\pm 10\%$	MIL-I-23053, Par. 4.6.5.1
		(5 minutes @ 300°C)

TEHRMOFIT ASSEMBLY PROCEDURE:

1.0 SCOPE

This document outlines the procedure to be followed to obtain immersion resistant multiple wire butt splices using Thermofit Multi-Wire In-Line Splice Sealing System D-436-42/-43.

2.0 PROCEDURE

- a) Pass the wires to be attached to one barrel through the separate three wire seal. (Item 3) Pass the wires to be attached to the other barrel through the sealing sleeve from the three hole insert end.
- b) Strip wires 5/16" to 11/32" and crimp into splicer using one of the approved crimping tools (see below). Care must be taken that the wires remain untwisted between the splice and the three wire seals or the sealing sleeve cannot be positioned properly.
- c) Position the separate seal as close as possible to the splicer. Hold this piece in position by squeezing the wires directly behind it, and slide the sealing sleeve over the assembly so that the separate seal is as far inside the sleeve as possible.
- d) Apply heat, using the recommended heat source, first to the "separate" seal end, and then the other. Heat should be applied until insert melts and flows axially along the wires.

Model Number AD-1377 614080 OT-609

3.0 RECOMMENDED TOOLS

a. Crimp Tools

Manufacturer	
Raychem	
Buchanan Electric Products	
Daniels manufacturing Company	

b. Heat Tools

Heater	Reflector
Thermogun #500A	TG-14
Shop Air Heater #CV-4504	991180
Mini-Gun #CV-5300	991319

Heater should be operated to give an air stream temperature of at least 550°F.

TE Connectivity		Raychem Devices		TITLE : IN-LINE SPLICE SEALING SYSTEM, MULTI-WIRE					
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