



**Raychem**

- Immersion-resistant crimp splices
- Mil-Spec approval (MiniSeal only)
- Small size
- Light weight
- Insulation and strain relief
- EMI protection (SolderShield only)
- Easy installation

## MiniSeal and SolderShield

### Wire and cable splicing products

MiniSeal and SolderShield wire and cable splicing products offer solutions for hundreds of aerospace and defense applications. These environment-resistant splices provide excellent reliability, long term performance, MIL-S-81824/1 qualification, and a low installed cost.

MiniSeal crimp splices consist of a plated copper crimp barrel and a separate, heat-shrinkable, transparent sealing sleeve. They can be used on a combination of wires, from 1:1 to 10:10. MiniSeal splices are one of the smallest, lightest, and most environment-resistant splices available. They preserve the electrical integrity of the splice by preventing the penetration of liquids and the resulting chemical and galvanic corrosion.

SolderShield devices can be used to repair or splice shielded or coaxial cables. These products consist of a MiniSeal crimp splice plus a flux-coated, solder-impregnated copper shield encased in a heat-shrinkable sealing sleeve, for splicing the shields. SolderShield kits terminate single- or multiple-conductor cables, eliminate EMI problems at the splice, and provide strain relief for the cable.

MiniSeal product dimensions and color codes

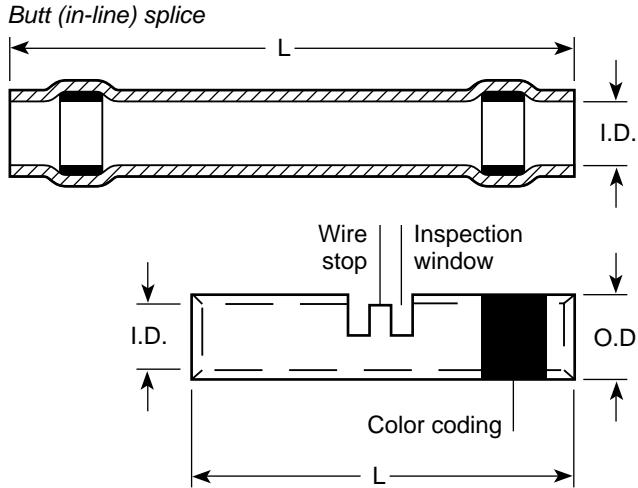
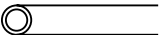
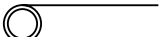
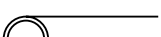
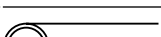
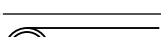
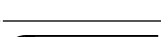





Illustration	Part number		Crimp barrel conductor size range CMA (mm <sup>2</sup> ) min.-max.	Sealing sleeve dimensions (inches/millimeters)	
	Tin plated	Nickel plated		Sealing insert	Side 1 Max. no. of wires
	D-436-36*	D-436-82	304-1510 (0.15-0.75)	 .085 (2.16)	2
	D-436-37*	D-436-83	779-2680 (0.39-1.34)	 .110 (2.79)	2
	D-436-38*	D-436-84	1900-6755 (0.95-3.37)	 .170 (4.32)	2
	D-436-0110	D-436-85	304-1510 (0.15-0.75)	 .093 (2.36)	6 (2 per hole)
	D-436-52	D-436-86	779-2680 (0.39-1.34)	 .093 (2.36)	6 (2 per hole)
	D-436-53	D-436-87	1900-6755 (0.95-3.37)	 .093 (2.36)	6 (2 per hole)
	D-436-0115	D-436-88	304-1510 (0.15-0.75)	 .093 (2.36)	6 (2 per hole)
	D-436-42	D-436-89	779-2680 (0.39-1.34)	 .093 (2.36)	6 (2 per hole)
	D-436-43	D-436-90	1900-6755 (0.95-3.37)	 .093 (2.36)	6 (2 per hole)

\*Qualified to MIL-S-81824/1.

Sealing Insert	Side 2	Crimp splicer dimensions (inches/millimeters)					Color code
	Max. no. of wires	L max.	I.D. min.	O.D. max.	L nom.		
 .085 (2.16)	2	1.15 (29)	.045 (1.14)	.080 (2.03)	.500 (12.7)	Red	
 .110 (2.79)	2	1.15 (29)	.064 (1.62)	.106 (2.69)	.575 (14.6)	Blue	
 .170 (4.32)	2	1.15 (29)	.097 (2.46)	.153 (3.89)	.575 (14.6)	Yellow	
 .160 (4.06)	2	1.15 (29)	.045 (1.14)	.080 (2.03)	.500 (12.7)	Red	
 .160 (4.06)	2	1.15 (29)	.064 (1.62)	.106 (2.69)	.575 (14.6)	Blue	
 .160 (4.06)	2	1.15 (29)	.097 (2.46)	.153 (3.89)	.575 (14.6)	Yellow	
 .093 (2.36)	6 (2 per hole)	1.38 (35)	.045 (1.14)	.080 (2.03)	.500 (12.7)	Red	
 .093 (2.36)	6 (2 per hole)	1.38 (35)	.064 (1.62)	.106 (2.69)	.575 (14.6)	Blue	
 .093 (2.36)	6 (2 per hole)	1.38 (35)	.097 (2.46)	.153 (3.89)	.575 (14.6)	Yellow	

MiniSeal product dimensions and color codes

Stub (parallel) splice

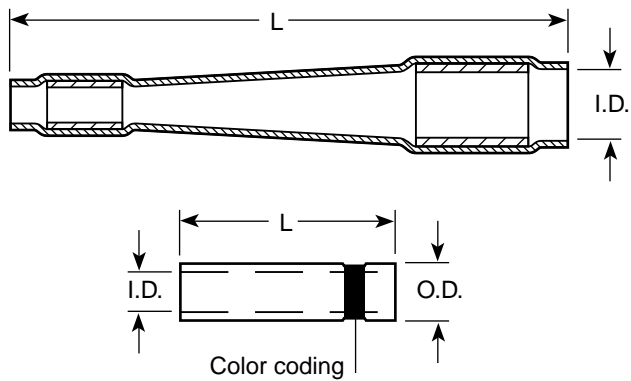
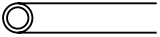
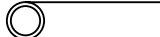
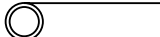


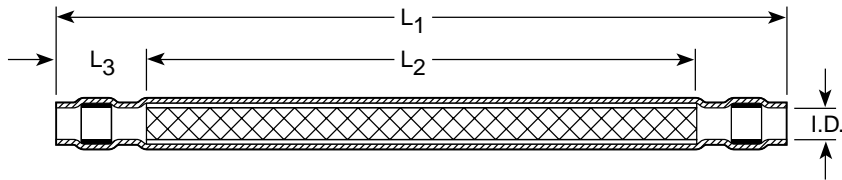


Illustration	Part number		Crimp barrel conductor size range CMA (mm <sup>2</sup> ) min.-max.	Sealing sleeve dimensions (inches/millimeters)	
	Tin plated	Nickel plated		Sealing insert	Side 1 Max. no. of wires
	D-436-0128	D-436-0119	304-1510 (0.15-0.75)	 .040 (1.01)	2
	D-436-58	D-436-75	779-2680 (0.39-1.34)	 .090 (2.28)	2
	D-436-59	D-436-76	1900-6755 (0.95-3.37)	 .090 (2.28)	2
	D-436-60	D-436-77	779-2680 (0.39-1.34)	 .080 (2.03)	10 (2 per hole)
	D-436-61	D-436-78	1900-6755 (0.95-3.37)	 .080 (2.03)	10 (2 per hole)

Sealing Insert	Side 2	L max.	Crimp splicer dimensions (inches/millimeters)			Color code
	Max. no. of wires		I.D. min.	O.D. max.	L nom.	
 .085 (2.16)		0.78 (20)	.045 (1.14)	.080 (2.03)	.275 (7)	Red
 .180 (4.56)		1.15 (29)	.064 (1.62)	.106 (2.69)	.275 (7)	Blue
 .180 (4.56)		1.15 (29)	.097 (2.46)	.153 (3.89)	.275 (7)	Yellow
 .250 (6.35)		0.98 (25)	.064 (1.62)	.106 (2.69)	.275 (7)	Blue
 .250 (6.35)		0.98 (25)	.097 (2.46)	.153 (3.89)	.275 (7)	Yellow

SolderShield product dimensions



Each SolderShield part consists of a SolderShield splice and one or more conductor splices. Refer to information below for description and numbers of conductor splices.

Part number		Dimensions (inches/millimeters)				Conductor splice*		
		L1 max.	L2 nom.	L3 min.	ID min.	Tin plated	Nickel plated	Quantity per kit
D-150-0168	D-150-0228	3.17 (80.5)	1.97 (50)	.400 (10.2)	.118 (3)	D-436-36	D-436-82	1
D-150-0169	D-150-0229	3.17 (80.5)	1.97 (50)	.400 (10.2)	.157 (4)	D-436-37	D-436-83	1
D-150-0170	D-150-0230	3.17 (80.5)	1.97 (50)	.400 (10.2)	.197 (5)	D-436-38	D-436-84	1
D-150-0174	D-150-0231	4.17 (10.6)	2.95 (75)	.400 (10.2)	.157 (4)	D-436-36	D-436-82	2
D-150-0175	D-150-0232	4.17 (10.6)	2.95 (75)	.400 (10.2)	.197 (5)	D-436-37	D-436-83	2
D-150-0176	D-150-0233	4.17 (10.6)	2.95 (75)	.400 (10.2)	.236 (6)	D-436-38	D-436-84	2
D-150-0177	D-150-0234	4.17 (10.6)	2.95 (75)	.400 (10.2)	.356 (9)	D-436-36	D-436-82	4
D-150-0178	D-150-0235	4.17 (10.6)	2.95 (75)	.400 (10.2)	.157 (4)	D-436-36	D-436-82	4
D-150-0179	D-150-0236	4.17 (10.6)	2.95 (75)	.400 (10.2)	.197 (5)	D-436-37	D-436-83	4
D-150-0180	D-150-0237	4.17 (10.6)	2.95 (75)	.400 (10.2)	.236 (6)	D-436-38	D-436-84	4
D-150-0181	D-150-0238	4.17 (10.6)	2.95 (75)	.400 (10.2)	.353 (9)	D-436-38	D-436-84	4
D-150-0094		3.17 (80.5)	1.97 (50)	.400 (10.2)	.118 (3)	N/A	N/A	1
D-150-0095		3.17 (80.5)	1.97 (50)	.400 (10.2)	.157 (4)	N/A	N/A	1
D-150-0096		3.17 (80.5)	1.97 (50)	.400 (10.2)	.236 (5)	N/A	N/A	1
D-150-0214		3.17 (80.5)	1.97 (50)	.400 (10.2)	.472 (12)	N/A	N/A	1
B-2021-81**		2.2 (56)	.90 (23)	.400 (10.2)	.275 (7)	N/A	N/A	1
B-202-82**		2.2 (56)	.90 (23)	.400 (10.2)	.275 (7)	N/A	N/A	1

\*Refer to MiniSeal tables for dimensions and color code.

\*\*These kits use solder to terminate the center conductors. All other kits use crimp.

---

**Typical characteristics**

---

**Materials**

Insulation sleeve	Radiation-crosslinked polyvinylidene fluoride
Melttable inserts	Fluorocarbon-based thermoplastic
MiniSeal crimp splice	Base metal: Copper alloy C10200 per ASTM B75 Plating: Tin per MIL-T-10727 or nickel per QQ-N-290
SolderShield shield splice	Base metal: Tin-plated copper wire braid per ASTM B3 Solder and flux coating: Type Sn63 Pb37 RA per QQ-S-571

---

Parameter	Test Method	Requirement
<b>Electromechanical performance</b>		
Dielectric withstanding voltage	MIL-S-81824	No breakdown at 2.5 kilovolts
Voltage drop	MIL-S-81824	Less than 2.0-millivolt increase
Insulation resistance	MIL-S-81824	1000 megohms at 100 Vdc
Tensile strength for MiniSeal	MIL-S-81824	Exceed yield strength (pounds) of wire.
Tensile strength for SolderShield	MIL-S-81824	75% of strength (pounds) of unspliced cable
<b>Environmental resistance</b>		
Salt spray	MIL-STD-202 M101	Meet voltage drop requirement.
Heat aging	750 hours at 150°C	Meet all electromechanical requirements.
Temperature cycling	MIL-STD-202 M107C	Meet all electromechanical requirements.
Altitude immersion	Immersion at 75,000 feet	Meet insulation-resistance requirement.

MiniSeal and SolderShield are trademarks of Tyco Electronics Corporation.

*All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application. Tyco Electronics makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. Tyco Electronics only obligations are those in the Standard Terms and Conditions of Sale for this product and in no case will Tyco Electronics be liable for any incidental, indirect or consequential damages arising from the sale, resale, use, or misuse of the product. Tyco Electronics Specifications are subject to change without notice. In addition, Tyco Electronics reserves the right to make changes in materials or processing without notification to the Buyer which do not affect compliance with any applicable specification.*

---

**Tyco Electronics Corporation**  
Raychem  
305 Constitution Drive  
Menlo Park, CA 94025  
U.S.A.  
[www.tycoelectronics.com](http://www.tycoelectronics.com)

**Tyco Electronics UK Ltd.**  
Raychem  
Cheney Manor Industrial Estate  
Swindon, Wiltshire SN2 2QE  
U.K.

**Tyco Electronics Raychem K.K.**  
Raychem  
3816 Noborito, Tama-ku  
Kawasaki 214-8533  
Japan

**Raychem Singapore Pte. Ltd.**  
Raychem  
No. 26 Ang Mo Kio Ind. Park  
Singapore 569507