



Cable-to-Cable Splicing

SolderShield shielded and coaxial cable splices



Applications

Used for splicing a wide range of cables, including coaxial and multiconductor cables.

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.

Features and benefits

- Flux-coated, solder-impregnated copper shield braid encased in a transparent heat-shrinkable insulation sleeve provides a controlled soldering process, encapsulation, inspectability, strain relief, and insulation.
- One-piece design provides easy installation and lower installed cost.
- Circumferential (360°) shielding results in EMI protection and shield continuity equal to or better than the original cable.
- Conductor splices are made using Raychem MiniSeal crimp products, which are recognized by MIL-S-81824 and MIL-W-5088.

Product selection process

For splicing multiconductor cables refer to Table A. For splicing coaxial cables refer to Table B.

Installation

For proper installation of these devices, the correct heating tool and reflector attachment must be used. Any one of the following Raychem heating tools is recommended:

- HL1802E
- IR-1759 MiniRay
- CV-1981

The HT-900B heating tool is designed for use in field applications.

Refer to Raychem installation procedure RCPS 150-02 (D-150 series) and RPIP 699-00 (B-202 series) for detailed instructions and recommended reflector attachment.

You will find ordering information for most of these tools in the Application Equipment section (Section 10) of this catalog.

Available in:

Americas

Europe

Asia Pacific



Specifications/approvals

Series	Military	Raychem
D-150	US: M81824 (conductor splice only) UK: RAF AP 1130-2008-1	RT-1404

Fax-on-demand

US only (800) 260-9099

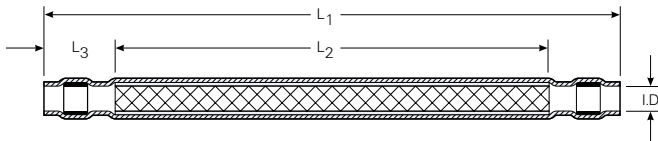
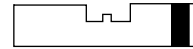
Outside US (650) 257-2301

Fax ID

5700

Description

Data sheet

Visit our website at www.tycoelectronics.com**Soldershield splice****Crimp splice**

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.

Table A. Multiconductor cable splices

The SolderShield splice kits listed in this table are for 1:1 cable splices. The kits can be used on cables with tin-, silver-, and nickel-plated copper conductors. All the kits have environmental-sealing capability. The cable temperature rating must be 125°C minimum.

To find the splice kit part number for your application:

1. Determine the number of conductors in the cable to be spliced.
2. Determine the gauge of each conductor or the maximum jacket OD.
3. Determine the conductor plating.
4. Select the appropriate part number from the table below.

SolderShield product dimensions

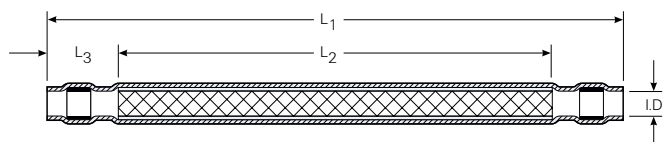
Part number		Dimensions (inches/millimeters)			ID min.	Conductor splice		Quantity per kit
		L ₁ max.	L ₂ nom.	L ₃ min.		Size range CMA (mm ²) min.-max.	Color code	
Tin plated	Nickel plated							
D-150-0168	D-150-0228	3.17 (80.5)	1.97 (50)	.400 (10.2)	.118 (3)	304–1510 (0.15–0.75)	Red	1
D-150-0169	D-150-0229	3.17 (80.5)	1.97 (50)	.400 (10.2)	.157 (4)	779–2680 (0.39–1.34)	Blue	1
D-150-0170	D-150-0230	3.17 (80.5)	1.97 (50)	.400 (10.2)	.197 (5)	1900–6755 (0.95–3.37)	Yellow	1
D-150-0174	D-150-0231	4.17 (10.6)	2.95 (75)	.400 (10.2)	.157 (4)	304–1510 (0.15–0.75)	Red	2
D-150-0175	D-150-0232	4.17 (10.6)	2.95 (75)	.400 (10.2)	.197 (5)	779–2680 (0.39–1.34)	Blue	2
D-150-0176	D-150-0233	4.17 (10.6)	2.95 (75)	.400 (10.2)	.236 (6)	1900–6755 (0.95–3.37)	Yellow	2
D-150-0177	D-150-0234	4.17 (10.6)	2.95 (75)	.400 (10.2)	.356 (9)	304–1510 (0.15–0.75)	Red	4
D-150-0178	D-150-0235	4.17 (10.6)	2.95 (75)	.400 (10.2)	.157 (4)	304–1510 (0.15–0.75)	Red	4
D-150-0179	D-150-0236	4.17 (10.6)	2.95 (75)	.400 (10.2)	.197 (5)	779–2680 (0.39–1.34)	Blue	4
D-150-0180	D-150-0237	4.17 (10.6)	2.95 (75)	.400 (10.2)	.236 (6)	1900–6755 (0.95–3.37)	Yellow	4
D-150-0181	D-150-0238	4.17 (10.6)	2.95 (75)	.400 (10.2)	.353 (9)	1900–6755 (0.95–3.37)	Yellow	4

Users should independently evaluate the suitability of the product for their application.
Before ordering check with factory for most current data.

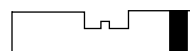
Cable-to-Cable Splicing

SolderShield shielded and coaxial cable splices (cont'd.)

Soldershield splice



Crimp splice



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.

Table B. Coaxial cable splices

All kits are for one-to-one coaxial cable splices, and all kits have environmental sealing capability. Each kit contains products to splice conductors, build up dielectric, splice the shield, and provide insulation.

RG cable number	Raychem cable description	Conductor splice qty/kit	Part number	SolderShield Dimensions		ID Min
				L ₁ max	L ₂ min	
8A, 9B, 11	5012A3311	1	D-150-0214	3.17	1.97	.472
13, 26, 31	5012E1339			(80.5)	(50)	(12)
115, 144, 149	7518A1311					
165, 213, 214						
216, 235, 391		1	D-150-0094	3.17	1.97	.118
393, 397				(80.5)	(50)	(3)
178, 196,	5028A1317					
179, 187, 188,	7528A1317					
316, 404, M17/138-00001,	5030A1317	1	D-150-0095	3.17	1.97	.157
M17/136-00001	7530A1317			(80.5)	(50)	(4)
180, 195	5024A1311					
M17/137-00001	7526A1311					
M17/139-00001	9527A1318	1	D-150-0096	3.17	1.97	.236
	9530E1014			(80.5)	(50)	(5)
124, 140, 141	5020A1311					
159, 302, 303	5022A1311					
	7522A1311	1	B-202-81*	2.2	.90	.275
29, 30, 55B	7523D1331			(56)	(23)	(7)
58, 223	7524A1311					
59, 62, 71	7523D1331	1	B-202-82*	2.2	.90	.275
	7524A1311			(56)	(23)	(7)
	9524A1311					

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

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Description

Data sheet

Visit our website at www.tycoelectronics.com**Product 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. Flux: ROM1 per ANSI - J - STD - 004 (RA flux)

Parameter**Test Method****Requirement****Electromechanical performance**

Dielectric strength (shield connection)		No breakdown or arcing at 1000 Vac (RMS)
Dielectric strength (conductor connection)		2.5 kV
Voltage drop	MIL-S-81824	Less than 2.0-millivolt increase
Insulation resistance (shield connection)		1000 megohms minimum at 500 Vdc
Insulation resistance (conductor connection)		5000 megohms
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
Temperature rating		-55°C to 150°C

Environmental resistance

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.
Corrosion resistance		No evidence of corrosion after testing in accordance with MIL-STD-202, Method 101, Test Condition A