

Cable-to-Cable Splicing

SolderShield shielded and coaxial cable splices

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FAX ID	Description
5700	Data sheet

Before ordering check with factory for most current data.



Applications

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

Features/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.

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.

Number of conductors	AWG/mm ²	Max. jacket OD (mm/in)	Part number	
			Tin/silver-plated conductor	Nickel-plated conductor
Single-conductor cable	20–26 (0.61–0.15)	3.0 (.118)	D-150-0168	D-150-0228
	16–20 (1.21–0.61)	4.0 (.157)	D-150-0169	D-150-0229
	12–16 (2.94–1.21)	4.3 (.170)	D-150-0170	D-150-0230
Two-conductor cables	20–26 (0.61–0.15)	4.0 (.157)	D-150-0174	D-150-0231
	16–18 (1.21–0.95)	5.0 (.197)	D-150-0175	D-150-0232
	14 (1.92)	6.0 (.236)	D-150-0176	D-150-0233
	12 (2.94)	9.0 (.356)	D-150-0177	D-150-0234
Three- or four-conductor cables	24–26 (0.24–0.15)	4.0 (.157)	D-150-0178	D-150-0235
	20–22 (0.61–0.38)	5.0 (.197)	D-150-0179	D-150-0236
	16–18 (1.21–0.95)	6.0 (.236)	D-150-0180	D-150-0237
	12–14 (2.94–1.92)	9.0 (.356)	D-150-0181	D-150-0238

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	Part number
8A, 9B, 11 13, 26, 31 115, 144, 149 165, 213, 214 216, 235, 391 393, 397	5012A3311 5012E1339 7518A1311	D-150-0214
178, 196, 179, 187, 188, 316, 404, M17/138-00001, M17/136-00001	5028A1317 7528A1317 5030A1317 7530A1317	D-150-0094
180, 195 M17/137-00001 M17/139-00001	5024A1311 7526A1311 9527A1318 9530E1014	D-150-0095
124, 140, 141 159, 302, 303	5020A1311 5022A1311 7522A1311 7523D1331 7524A1311	D-150-0096
29, 30, 55B 58, 223	5019D3318 5021D1331 5022A1311	B-202-81*
59, 62, 71	7523D1331 7524A1311 9524A1311	B-202-82*

*These kits use SolderSleeve devices to terminate the center conductors. All other kits use MiniSeal crimps.

Product Characteristics

Material

Insulation sleeves	Radiation-crosslinked, heat-shrinkable polyvinylidene fluoride (Kynar)
Shield	Tin-plated copper wire braid per ASTM B3 with Sn63 Pb37 solder, RA flux
Conductor crimp splice	Copper alloy per ASTM B75 (C10200), nickel plate per QQ-N-290
Sealing rings	Melttable thermoplastic

Typical performance

Tensile strength (shield connection)	75% of unspliced cable minimum
Tensile strength (conductor connection)	Exceeds strength of conductor
Dielectric strength (shield connection)	No breakdown or arcing at 1000 Vac (RMS)
Dielectric strength (conductor connection)	2.5 kV
Temperature rating	-55°C to 150°C
Insulation resistance (shield connection)	1000 megohms minimum at 500 Vdc
Insulation resistance (conductor connection)	5000 megohms
Corrosion resistance	No evidence of corrosion after testing in accordance with MIL-STD-202, Method 101, Test Condition A

Specifications/Approvals

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

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 of this catalog.

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