



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

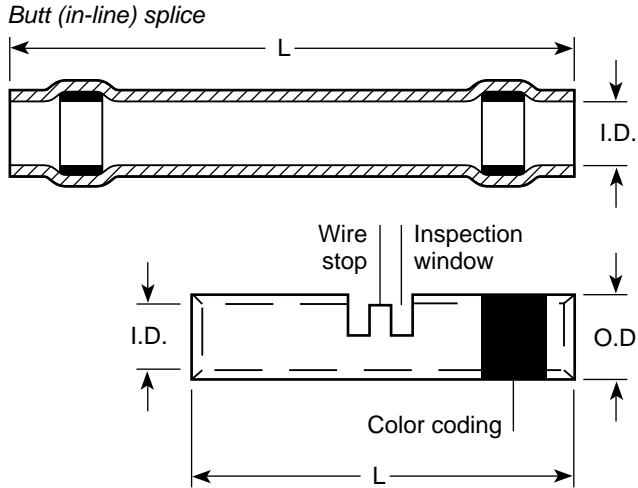
Wire and cable splicing products

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.

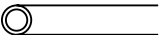
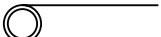
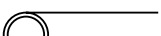
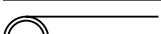
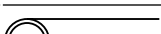
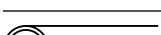
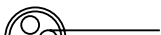


SolderShield devices can be used to repair or splice shielded or coaxial cables. These products consist of a MiniSeal crimp splice plus a flux-coated, solder-impregnated copper shield encased in a heat-shrinkable sealing sleeve, for splicing the shields. SolderShield kits terminate single- or multiple-conductor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

MiniSeal product dimensions and color codes



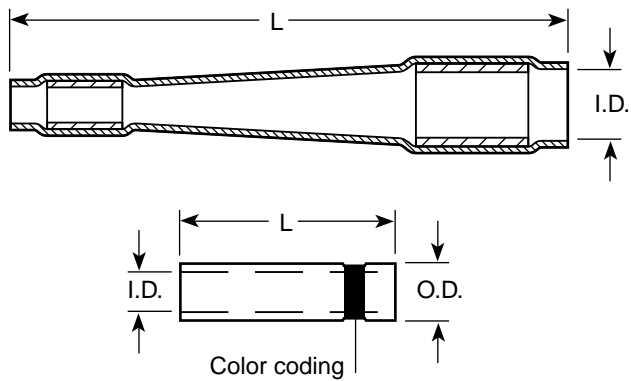
| Illustration | Part number | | Crimp barrel conductor size range CMA (mm ²) min.–max. | Sealing sleeve dimensions (inches/millimeters) | |
|--------------|-------------|---------------|---|--|--------------------------------|
| | Tin plated | Nickel plated | | Sealing insert | Side 1 Max. no. of wires |
| | 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.

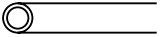
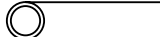
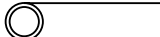


| Sealing Insert | Side 2 | Crimp splicer dimensions (inches/millimeters) | | | | | Color code |
|--|-------------------|---|-------------|-------------|-------------|--------|------------|
| | Max. no. of wires | L max. | I.D. min. | O.D. max. | L nom. | | |
|  .085 (2.16) | 2 | 1.15 (29) | .045 (1.14) | .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

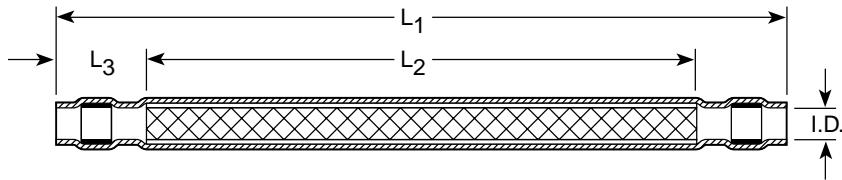
Stub (parallel) splice



| Illustration | Part number | | Crimp barrel conductor size range CMA (mm ²) 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 |
|--------------------------------------|--------------------------|---|
| Electromechanical performance | | |
| 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 |
| 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. |

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