

DuraSeal Heat-Shrinkable, Environmentally Sealed, Nylon-Insulated Crimp Splices

Product Facts

- Protects splices from water, condensation, salt, and corrosion
- Provides strain relief
- Protects against vibration in rugged environments
- Completely insulates and protects electrical connections
- Has adhesive lining for protection that is more reliable than conventional splices
- UL, CUL, and Lloyd's listed 



Applications

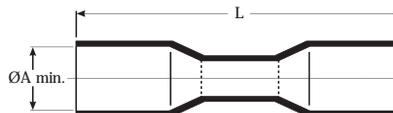
- Automotive/truck wiring repair and maintenance.
- Automotive accessory installations.
- OEM automotive/truck/RV wire harness fabrication.
- Marine electronics.
- Fleet maintenance.
- Commercial wiring (pumps/pools/spas).
- Appliances.

Specifications/Approvals

Series	Agency	Raychem
D-406	UL and CUL listed 91J4, File E87681	RB-107
—	Lloyd's listed, File 65 247 HH 02-93	—

Product Dimensions

Butt Splices



Available in:

- Americas ■
- Europe ■
- Asia Pacific ■

Part No.	Butt Splice Dimensions		Color	Conductor	Wire Dimensions	
	A Min.	L Nom.			Insulation O.D. (Max.)	Insulation O.D. (Min.)
D-406-0001	3.68 [.145]	31.75 [1.25]	Red	22-18	3.56 [.140]	1.40 [.055]
D-406-0002	4.57 [.180]	31.75 [1.25]	Blue	16-14	4.45 [.175]	2.03 [.080]
D-406-0003	6.35 [.250]	38.10 [1.50]	Yellow	12-10	6.22 [.245]	2.79 [.110]

**DuraSeal Heat-Shrinkable, Environmentally Sealed,
Nylon-Insulated Crimp Splices (Continued)**

Product Selection Process

1. Determine wire size.
2. Select part number.

Wire Size AWG	mm ²	Part No.	Color
22-18	0.38-0.95	D-406-0001	Red
16-14	1.2-2.5	D-406-0002	Blue
12-10	3-6	D-406-0003	Yellow

**Product Characteristics
(Typical)**

Operating temperature	-55°C to 125°C [-67°F to 257°F]
Shrink ratio	Approximately 2:1
Physical properties	Cut-through resistance: 31 kg [70 lb] Wire pullout after crimping and recovery: red: 11.3 kg [25 lb]; blue: 22.7 kg [50 lb]; yellow: 27.2 kg [60 lb] Not flame-retardant No cracking after heat aging for 168 h at 160°C [320°F]
Chemical properties	Solvent resistance: isopropyl alcohol, trichloroethylene, gasoline, battery acid, diesel fuel, motor oil, antifreeze, brake fluid, 5% salt water
Electrical properties	Dielectric strength: 2500 Vac Insulation resistance: 1000 megohms at 100 Vdc

Installation Requirements

For proper installation of these devices, the correct crimp tool and a heating tool with a reflector attachment must be used. The Raychem AD-1522 crimp tool and HL1802E heating tool are recommended.

You will find ordering information for these tools in Section 10.

Refer to Raychem installation procedure RPIP 821-00 for detailed instructions.

Installation

1. Select splice of appropriate size. Strip wire 7.5 mm (5/16 in). Insert into crimp barrel.



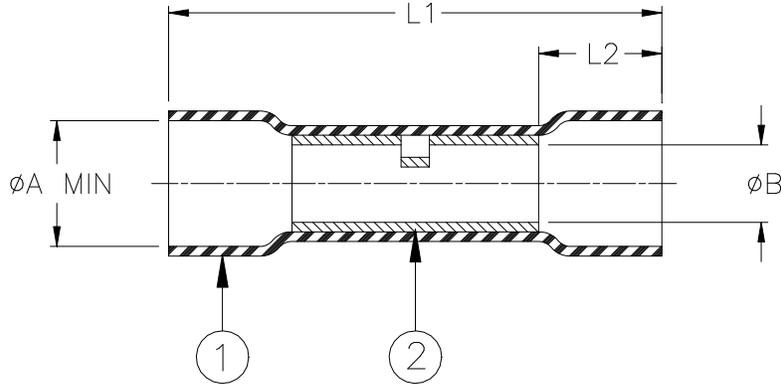
2. Crimp using Raychem AD-1522 crimp tool for preinsulated crimps.



3. Heat crimped splice with heat gun until tubing recovers and adhesive flows.



CUSTOMER DRAWING



Product Name	Color	Marking	Size Range mm ² (AWG)	L1 ±1.50 [±0.06]	L2 min	ϕA^*		ϕB min	Wire Strip Length Nom.
						(a) min	(b) max		
D-406-0034	Yellow	DURASEAL [®] 24-26	0.15 - 0.25 (26 - 24)	31.5 [1.24]	5.0 [0.20]	3.00 [0.118]	1.40 [0.055]	1.09 [0.043]	6 to 8 (1/4 to 5/16)
D-406-0001	Red	DURASEAL [®] 18-22	0.5 - 1.0 (22 - 18)	31.5 [1.24]	5.0 [0.20]	3.70 [0.146]	1.40 [0.055]	1.47 [0.058]	6 to 10 (1/4 to 3/8)
D-406-0002	Blue	DURASEAL [®] 14-16	1.5 - 2.5 (16 - 14)	31.5 [1.24]	5.0 [0.20]	4.60 [0.181]	2.00 [0.080]	2.33 [0.092]	6 to 10 (1/4 to 3/8)
D-406-0003	Yellow	DURASEAL [®] 10-12	3.0 - 6.0 (12 - 10)	37.5 [1.48]	10.0 [0.39]	6.50 [0.255]	2.80 [0.110]	3.50 [0.138]	10 to 13 (3/8 to 1/2)

MATERIALS

1. INSULATION SLEEVE: Heat-shrinkable, radiation cross-linked polyamide (Nylon) with a polyamide-based hot-melt adhesive liner. See above table for applicable sleeve color.
2. CRIMP SPLICE: Tin-plated copper alloy.
BASE METAL: Copper alloy C11000 per ASTM B152.
PLATING: Tin-plated per ASTM B545, Class A.

APPLICATION

1. These parts may be used to obtain an environment-resistant one-to-one in-line (butt) splice in wires meeting the size range and diameter restraints specified herein and having a temperature rating of not less than 85°C.
2. * ϕA : (a) Minimum diameter as received: Wire insulation diameter must be less than this value.
(b) Maximum diameter after recovery: Wire insulation diameter must be larger than this value to obtain an environment resistant splice.
3. Wires are to be stripped per table, inserted into opposite ends of the crimp barrel, crimped with a TE Connectivity AD-1522 (22-10 AWG) or equivalent. For D-406-0034, Pro-Crimper III with die set 1976356-1 (24-26 AWG) or equivalent may be used. The sleeve must be heated along its entire length until the crimp marks are gone and the ends of the sleeve recover onto the wires.
4. Spliced assemblies will meet the requirements of TE Connectivity / Raychem specification RB-107.
5. Except for D-406-0034, all of the parts covered by this drawing are UL Listed (US and CANADA), File #E87681.

		Raychem Devices CUSTOMER DRAWING	TITLE: DURASEAL CRIMP SPLICE ENVIRONMENT RESISTANT		
Unless otherwise specified dimensions are in millimeters. [Inches dimensions are shown in brackets]			DOCUMENT NO.: D-406-00XX		
TOLERANCES: 0.00 N/A 0.0 N/A 0 N/A	ANGLES: N/A ROUGHNESS IN MICRON	TE Connectivity reserves the right to amend this drawing at any time. Users should evaluate the suitability of the product for their application.	REV: C2	DATE: 25-JUL-2014	
DRAWN BY: P.TALLY	CAGE CODE: 06090	ECO NUMBER: ECO-14-011579	SCALE: NTS	SIZE: A	SHEET: 1 of 1