

Penn-Union Type SW Copper Alloy Split Bolt Connectors



Penn-Union Type SW Copper Alloy Split Bolt Connectors are designed for use with two conductors in electrical power applications. They may be used for copper-to-copper, copper-to-aluminum, and aluminum-to-aluminum connections. They are manufactured from high-strength copper alloy and are highly resistant to corrosion and thermal cycling.

Use of an oxide inhibiting compound such as CUAL-AID #11C is recommended with this connector.

Features

- True hex design allows easy installation with standard tooling (torque wrench, standard socket, box, or open-end wrench)
- Electro-tin-plated bolt, nut, spacer, and pressure bar
- Under torque, this design provides high contact pressure between conductors
- Wide wire range
- Rated for 90 °C copper and aluminum conductors (AL9CU)
- Reusable with proper installation practice



SW-3-1



SW-6-1



Standards

UL 486A-486B, "Wire Connectors"
CSA C22.2 No. 65, "Wire Connectors"



460C
WIRE CONNECTOR
AL9CU

UL File E12822
CSA File 023769

Penn-Union Type SW Copper Alloy Split Bolt Connectors Selection Guide

Part Number	Price	Quantity Per Pack	Copper and Aluminum		Aluminum Conductor Steel Reinforced (ACSR) Range of Main or Tap	Guy Strand (in)	Max. Conductor Copperweld		Wire Diameter Range (in)	Body Hex Size (in)	Nut Hex Size (in)	Torque (in·lb)	Drawing
			Equal Run & Tap	Min. Tap With One Max Main			Stranded	Type A					
SW-3-5	\$16.50	5	14 Str. to 8 Str.	14 Str.	8	0.16	-	-	0.073 - 0.146	7/16	5/8	165	PDF
SW-3-1	\$3.25	1											PDF
SW-4-5	\$22.50	5	10 Str. to 6 Str.	10 Sol.	6	0.22	3 No. 12	8A	0.116 - 0.184	1/2	11/16	165	PDF
SW-4-1	\$4.25	1											PDF
SW-5-5*	\$26.50	5	AL: 8 Sol. to 4 Str. CU: 8 Sol. to 2 Sol.	8 Sol.	6 - 4	0.25	3 No. 9	5A	AL: 0.128 - 0.232 CU: 0.128 - 0.258	5/8	13/16	275	PDF
SW-5-1*	\$5.50	1											PDF
SW-6-5	\$27.50	5	8 Sol. to 2 Str.	8 Sol.	6 - 2	0.31	3 No. 7	3A	0.128 - 0.316	5/8	13/16	275	PDF
SW-6-1*	\$5.50	1											PDF

* RUS Accepted

Penn-Union CUAL-GEL and CUAL-AID Oxide Inhibitors



Penn-Union CUAL-GEL and CUAL-AID Selection Guide			
Part Number	Price	Recommended Use	Unit Packaging
<u>1/2PT10CUALGEL-1</u>	\$15.00	CUAL-GEL is for use with conductors, connectors and conduit	8 oz squeeze bottle
<u>1/2PT10NO11C-1</u>	\$18.00	CUAL-AID #11C is for aluminum-to-aluminum, aluminum-to-copper, conduit threads, and bolted applications	8 oz squeeze bottle
<u>1/2PT10NO12C-1</u>	\$27.00	CUAL-AID #12C is for use with compression lugs and splices for aluminum-to-aluminum and aluminum-to-copper in all compression applications. Not for use on threads or bolted applications.	8 oz squeeze bottle

[1/2PT10CUALGEL-1](#)

CUAL-GEL

Penn-Union CUAL-GEL is a non-melting, non-petroleum-based compound specifically designed to prevent oxidation and corrosion of aluminum, copper, tin and steel. It offers advanced protection under a variety of environmental conditions.

Features

- Prevents oxidation and corrosion
- Multiple uses with conductors, connectors and conduit
- Has little or no effect on rubber and other insulating materials
- Easy clean-up with soap and water

[CUAL-AID #11C](#)

Penn-Union CUAL-AID #11C is a high quality, non-melting, non-petroleum base electrical joint compound with suspended zinc particles. It is for use with compression lugs and splices and is recommended for aluminum-to-aluminum, aluminum-to-copper, conduit threads, and bolted applications.

Features

- Prevents oxidation and corrosion
- Has little or no effect on rubber and other insulating materials

[CUAL-AID #12C](#)

Penn-Union CUAL-AID #12C is a high quality compression use compound consisting of a non-melting, non-petroleum base material with suspended zinc particles and abrasive grit. It is for use with compression lugs and splices.

Features

- Prevents oxidation and corrosion
- Has little or no effect on rubber and other insulating materials

Easy to Apply

Connectors: DO NOT wire-brush the grooves or contact surfaces of plated or grease coated connectors. For unplated, ungreased connectors, wire-brush contact surfaces until bright and clean. Immediately apply compound to the conductive surfaces. Install conductor and finish installation.

Cable: Apply compound and wire-brush into strands of aluminum cable. This removes oxide coating from the strands and prevents it from reforming. Install conductor and finish installation.

Bar: Wire-brush compound across the surface of the bar to remove oxide coating and finish installation. DO NOT wire-brush plated surfaces; simply apply compound and finish installation.

Properties of CUAL-AID and CUAL-GEL				
Property	Definition	CUAL-GEL	CUAL-AID #11C (With zinc particles)	CUAL-AID #12C (With zinc and grit)
Penetration (Unworked)	The value in accordance with ASTM D217 indicates the consistency of a compound. The higher the number, the softer the compound.	230-270	240-280	220-260
Dropping Point (Min)	The temperature at which the compound passes from semi-solid to liquid state under test conditions	500 °F [260 °C] Non-melting		
Pour Point (Max)	The lowest temperature at which the compound will flow. Pour point is the lubricant's ability to perform in cold conditions.	-10 °F [-23.3 °C]		
Service Temperature Range	After installation, the temperature at which the compound is expected to perform and protect.	-58 to +302 °F [-50 to +150 °C]		