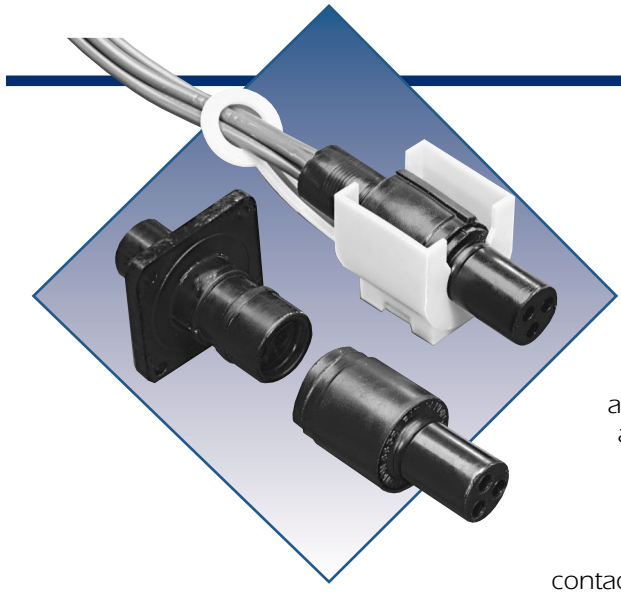


# Sure-Seal®

Sure-Seal®



## Low cost, high reliability

A one-piece resilient body and rugged multiple moisture seals make Sure-Seal® connectors a natural for applications where outside contaminants must be excluded. Sure-Seal® is reliable and uncomplicated. Only two parts are required to complete a connector: the connector body, and the contacts. Sure-Seal® was developed to address Department of Transportation safety regulations for connectors used in automobiles. Since then, Sure-Seal® has been successfully used in a broad range of environmental applications where a small, low cost connector is needed. These sealed connectors meet or exceed DOT requirements for shock, vibration, temperature cycling, salt water spray and immersion, petroleum derivatives, industrial gas, all the while insuring low milli-volt drop and low contact resistance. Existing applications include motorcycles, automobiles, boats, and a wide range of demanding off-road vehicle uses. Sure-Seal® will operate in temperatures from -40°F to +221 °F under conditions of high humidity, severe vibration, ice and mud. Sealing integrity is maintained with exposure to brake fluid, gasoline, diesel fuel, anti-freeze, ultraviolet, ozone, and steam.

## Applications

Wet, humid, or dirty environments requiring a low cost, small and reliable sealed connector

- Automotive
- Marine
- Appliances
- Trucks and Buses
- Off-road Vehicles
- Industrial Machinery

## Features

### Low Installed Cost

One piece molded bodies and crimp contacts provide a low cost solution. In addition, these connectors can be easily terminated by the user.

### Water Submersible

Not just splash-proof, but truly submersible for short periods of time. Sure-Seal® will seal to the requirements of IP67 and DIN 400 50.

### Resistant to Automotive/Industrial Environments

Sure-Seal® will operate in temperatures from -40°F to +221 °F under conditions of high humidity, severe vibration, ice and mud. Sealing integrity is maintained with exposure to brake fluid, gasoline, diesel fuel, anti-freeze, ultraviolet, ozone, and steam.

### Wide Range of Wire Gauges and Current Carrying Capability

Up to 85 amps with wire gauges from size 20 up to size 4 AWG wire.

### One-Piece Connector

Sure-Seal® has a simple one-piece molded body. No other parts (other than contacts)

are required. Bodies mate using multiple resilient seals and will remain mated even under severe vibration and shock.

### Field Serviceable

The use of removable crimp contacts allows Sure-Seal® connections to be changed or modified in the field if necessary.

### Polarized Against Mis-mates

Connector halves use both pin and socket contacts. The plug and receptacle must be properly oriented for the connectors to mate. Raised indexing ribs in conjunction with a stepped plane allow blind mating of the connector halves even in dark or cramped spaces.

### Three Sure-Seal® Versions

Sure-Seal® is available in three versions. The basic Sure-Seal® line is the broadest and ideal for most applications. Mini-Sure-Seal® provides a slightly smaller connector in a limited range of configurations. Power Sure-Seal® is for single circuit, high power applications.



**NEW!** Visit us at: [www.suresealconnections.com](http://www.suresealconnections.com)



# Technical Specifications

(Complete test data available on [page SS 16.](#))

Sure-Seal®

## MATERIALS & FINISHES

Body	Elastomeric material (PVC Nitrile standard. Also available in silicone & EPDM)
Contacts	Copper alloy
Plating	Tin-lead standard; gold plating optional

## ELECTRICAL DATA

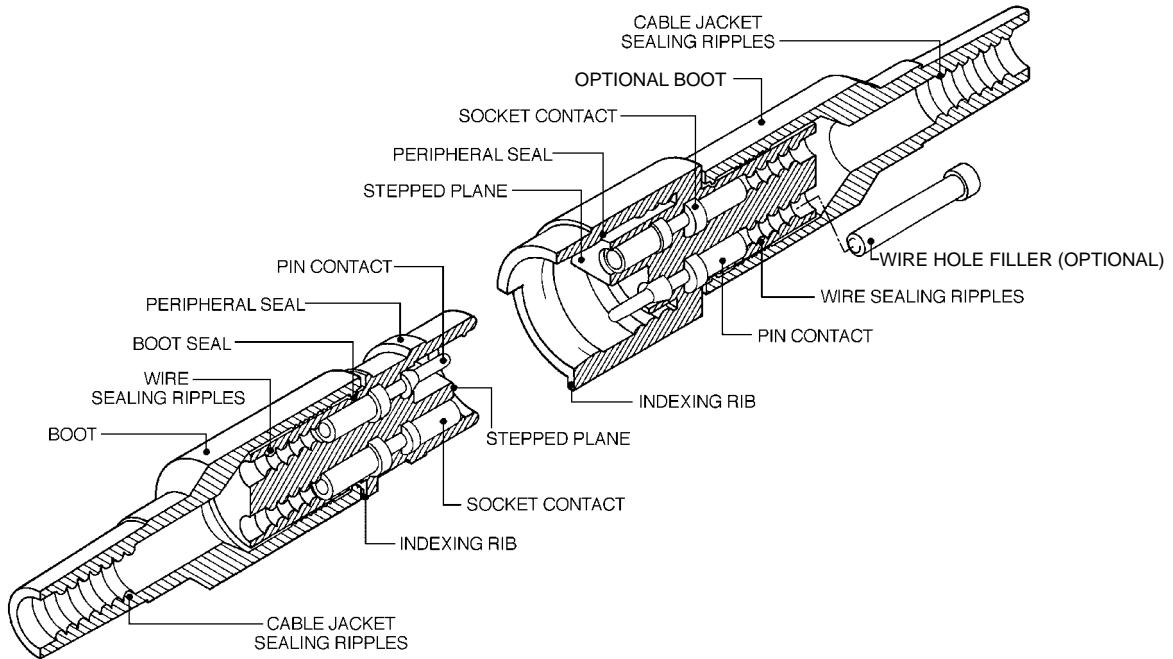
Operating Voltage	400 Vac maximum
Dielectric Withstanding Voltage	1,200 Vac at sea level
Current rating	15 Amps (Sure-Seal®) 8 Amps (Mini Sure-Seal®) 85 Amps (Power Sure-Seal®)
Wire Range Sizes	14 - 18 AWG (Sure-Seal®) 18 - 20 AWG (Mini Sure-Seal®) 4 - 10 AWG (Power Sure-Seal®)
Contact Resistance	10 Milliohms maximum
Insulation Resistance	100 Megohms (minimum)

## MECHANICAL

Operating Temperature	-40°F to +221°F (-40°C to +105°C)
Sealing	≈IP67, DIN 400 50, 3 foot depth in 5% salt solution 24 hours min. ≈ NEMA 6 p
Wire Sealing Range	See column 8 on contact chart, <a href="#">page SS 7.</a>
Insulation Strip Lengths	See column 7 on contact chart, <a href="#">page SS 6.</a>
Mating Life	50 cycles minimum
Salt Spray	To MIL-STD-202D Method 101D
Heat	+221°F (+105°C) for 1000 hours ( <a href="#">See test data page SS 16.</a> )
Weather, Ozone, & Ultraviolet	In accordance with ASM D-1149 (100pphm) & ASTM D-1171 (outdoor exposure)
Vibration	5 to 55 Hz .06" DA 1 hour; radial & longitudinal axes
Shock	50g 11ms, 30 cycles; radial & longitudinal axes
Contact Type	Crimp: using hand or semi-automatic tooling
Number of Circuits	1 to 10
Contact Insertion	From rear with simple hand tool or simultaneous insertion of multiple contacts with semi-automatic insertion machine. Removable, 5 cycles minimum.
Contact Retention	7.5 lbs. (35N) minimum
Polarization	Stepped plane positive polarization, indexing ribs, and visual polarization all permanently molded into body.
Agency Listings	UL (E176866) & CSA (LR109871-1)
Color	Black (alternate colors optional)



# Sure Seal Cross Section



Sure-Seal®

## How to Select Sure-Seal® Connectors & Accessories

1. Choose series:  
(Sure-Seal®, Mini Sure-Seal®, or Power Sure-Seal®).

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2. Determine number of circuits required per connector:
  - 1 to 10 in Sure-Seal®
  - 2 to 4 in MINI Sure-Seal®
  - 1 in POWER Sure-Seal®

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3. Select connector with appropriate number of circuits.

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4. Select Sure-Seal® body style (straight or flanged plug and receptacle).

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5. Select connector accessories:  
(Boots, Mounting Ring, Mounting Plates, Mounting Clip, Wire Hole Filler, Holding Blocks).

## How to Select Sure-Seal® Contacts & Tooling

1. Determine current carrying and wire gauge requirements for application.

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2. Select appropriate contacts from contact selection chart on [page SS 6](#).

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3. Choose appropriate crimp, insertion, and extraction tooling on [page SS 7](#).