

Solder Splice Connectors & Moisture Seal Products

Solder Splice Connectors

3M Solder Splice Connectors (SSC) represent a breakthrough in wire splicing technology. In one easy step, multiple wires can be soldered, insulated, and sealed. This system does not require a crimp tool, just a standard heat gun designed for solder-type connectors. They are available in four sizes and three product types.

The 3M solder splice connector is ideal for harness fabrication in a variety of industries including aerospace/military, appliance, automotive, and marine. It has a lower installed cost than competitive methods.

Wire harness splices prepared with the 3M solder splice connector can be created in two easy steps. First, insert the stripped wires into the device; second, heat the device until the connection is made.

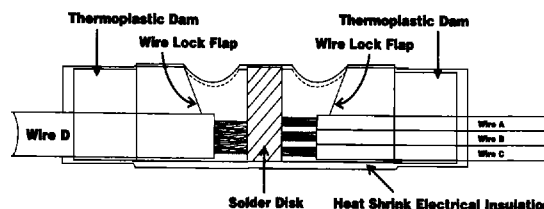
There is virtually no risk of electrical shorting from stray wire strands or of puncturing the insulation. The solder is contained within the barrel and tubing, not exposed to the operator.

There are many other benefits of using the 3M solder splice connector:

- Color coded for size.
- Connects solid, stranded, bare, copper, or tinned wire.
- Each size connects a wide range of wire gauges.
- Connects any wire combination that can be inserted.
- Built-in wire stop ensures proper wire placement.
- Wire-locking barrel holds wires in place prior to soldering.
- Metal barrel prevents contamination of solder.
- Solder provides maximum current flow; resistance: < 0.5 milliohms; voltage drop: 0 to -1 mV.
- Sealant provides an environmental seal (insulation resistance of outer tubing is >10kV).
- Prevents copper oxidation and corrosion.
- Requires only one tool for installation.
- Connection can be visually inspected.
- Can create "pigtail" or closed-end splices.
- Creates a strong connection; pull out strength is 150 lbs. typical or wire failure.
- UL approved.

The strength and reliability of the 3M solder splice connector bond will reduce rejects and field failures, and thus reduce both the need for repairs and the time and cost required to perform them. Once you have completed a 3M solder splice connector, you can forget about it.

SSC 200x Series Solder Splice



The 3M Solder Splice Connector SSC 200x Series is an ingenious, patented design. It is a one-piece splice insulated with a flame-retardant, heat-shrinkable sleeve of 3M's new flexible THV fluoropolymer. THV offers outstanding clarity of the clear insulating sleeve. It allows easy inspection of the connection. Inside the sleeve are colored thermoplastic sealing dams and a wire-locking barrel with a fluxed solder disk. Size color-coding is provided through the colored insert dams.

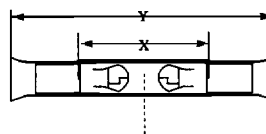
Typical Properties

Applicable Specification: UL Listed File E165969. Approved for selected wire combinations for 600V and 150°C. Approved on U.S. Army, Tank Automotive Command (TACOM) Drawing number 12420927, Issued April 5, 1995.

Physical	
Shrinkable Sleeve	Transparent, radiation cross-linked fluoro-terpolymer (3M THV) that meets MIL-123053/18 Class 3. Tubing is flame retardant.
Sealing Inserts	Meltable fluorinated thermoplastic
Wire Pull-out Strength	Wire failure or 125 lbs. min.
Service Temperature	-55°C to 150°C
Solder Preform	43% lead, 43% tin, 14% bismuth per Federal Specification QQ-S 571 with non-corrosive flux
Barrel	Tin-Plated cartridge brass
Voltage Drop	0 - 1 mV
Dielectric Strength (outer sleeve)	10 kV/min.
Resistance	0.5 milliohms max.
Sealing Performance (immersed in saline)	0.250 micro amps max.

Typical Applications

The SSC 200x Series is ideal for harness fabrication in a variety of industries: aerospace and military, marine, automotive, appliance, and outdoor electrical wiring.



Standard Sizes and Dimensions

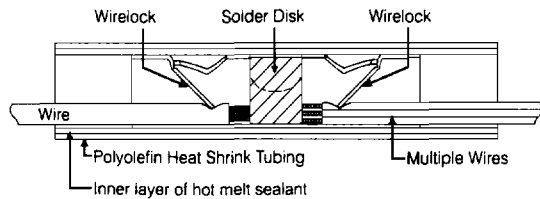
Product	Color	X Length (Nominal)	Y Length (Nominal)	I.D. (Nominal)	Single Wire to Single Wire Connections
SSC 2000	White	0.57"	0.98"	0.09"	28-20 AWG
SSC 2001	Red	0.83"	1.54"	0.14"	24-14 AWG
SSC 2002	Blue	1.00"	1.93"	0.21"	22-10 AWG
SSC 2003	Yellow	1.25"	2.40"	0.26"	20-8 AWG

Ordering Information

Order SSC Series by product number in the smallest size applicable.

3M™ Heat Shrink Products

SSC 100x Series Solder Splice



The 3M Solder Splice Connector SSC 100x Series is a simple, one-piece design. The outer layer is a tube of color-coded, translucent, polyolefin heat-shrinkable tubing lined with hot melt sealant that provides insulation and a moisture seal while allowing easy inspection of the solder connection. Inside the tubing is a wire-locking metal barrel that holds a fluxed solder disk.

Typical Properties

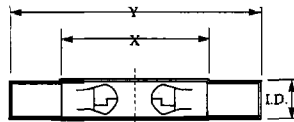
Applicable Specifications: UL Listed File E165969. Approved for selected wire combinations for 600V and 150°C. CSA Certified File LR38227-37. Meets requirements of American Boat & Yacht Council, Inc. (ABYC) for wire pull-out strength and moisture resistance. See ABYC Recommended Practices E-8 & E-9.

Physical

Shrinkable Sleeve	Translucent, cross-linked polyolefin with adhesive/sealant inner liner.
Solder Preform	43% lead, 43% tin, 14% bismuth with non-corrosive flux
Barrel	Tin-Plated cartridge brass
Voltage Drop	0 – 1 mV
Dielectric Strength (outer sleeve)	10 kV/min.
Resistance	0.5 miliohms max.
Wire Pull-out Strength	Wire failure or 125 lbs. min.
Sealing Performance (immersed in saline)	0.250 micro amps current leakage at 50V DC and 50 milliamp input
Service Temperature	-55°C to 125°C

Typical Applications

The SSC 100x Series is ideal for harness fabrication in a variety of industries: marine, automotive, appliance, and outdoor electrical wiring.



Standard Sizes and Dimensions

Product	Color	X Length (Nominal)	Y Length (Nominal)	I.D. (Nominal)	Single Wire to Single Wire Connections
SSC 1000	Clear	0.57"	1.00"	0.12"	28–20 AWG
SSC 1001	Red	0.83"	1.37"	0.18"	24–14 AWG
SSC 1002	Blue	1.00"	1.68"	0.26"	22–10 AWG
SSC 1003	Yellow	1.25"	2.00"	0.33"	20–8 AWG

Ordering Information

Order SSC Series by product number in the smallest size applicable.

SSC 050x Series Two-Part Solder Splice

In many field applications, you may need to make a strong, reliable solder connection in an environment where no electricity is available to power a heat gun. For these situations, the 3M Two-Part Solder Splice Connector SSC 050x Series is available. It is a two-part configuration that can be installed using a small butane torch. Its design is identical in every way to the 3M Solder Splice SSC 100x Series, except that the sealant-lined tubing is separate from the barrel/solder assembly.

The SSC 050x is available in three sizes: 0501, 0502, and 0503, which correspond to the 1001, 1002, and 1003 Solder Splices.

Typical Properties

Applicable Specifications: UL Listed File E165969. Approved for selected wire combinations for 600V and 150°C. CSA Certified File LR38227-37. Meets requirements of American Boat & Yacht Council, Inc. (ABYC) for wire pull-out strength and moisture resistance. See ABYC Recommended Practices E-8 & E-9.

Physical

Shrinkable Sleeve	Translucent, cross-linked polyolefin with adhesive/sealant inner liner.
Solder Preform	43% lead, 43% tin, 14% bismuth with non-corrosive flux
Barrel	Tin-Plated cartridge brass
Voltage Drop	0 – 1 mV
Dielectric Strength (outer sleeve)	10 kV/min.
Resistance	0.5 miliohms max.
Wire Pull-out Strength	Wire failure or 125 lbs. min.
Sealing Performance (immersed in saline)	0.250 micro amps current leakage at 50V DC and 50 milliamp input
Service Temperature	-55°C to 125°C

Typical Applications

The SSC 050x Series is ideal for field installation and repair of outdoor electrical equipment.

Standard Sizes and Dimensions

Product	Color	Barrel Length (Nominal)	Sleeve Length (Nominal)	I.D. (Nominal)	Single Wire to Single Wire Connections
SSC 0501	Red	0.83"	1.37"	0.18"	24–14 AWG
SSC 0502	Blue	1.00"	1.68"	0.26"	22–10 AWG
SSC 0503	Yellow	1.25"	2.00"	0.33"	20–8 AWG

Ordering Information

Order SSC Series by product number in the smallest size applicable.