

Spatter Tubing



Two-Layered Spatter Tubing: SP4

Features

- This is a two-layered tubing with layers of special flame-resistant resin to prevent sparks.
- Highly flexible and excellent in water resistance.
- Use in combination with the Instant Fitting [W Series] or the Speed Controller PSW to make the entire piping system fireproof.

Use

- Air and water line tubing for spot welding robots
- Pneumatic equipment tubing

Three-Layered Spatter Tubing: SPF

Features

- Excellent durability against sparks and shocks generated by welding equipment.
- Highly flexible and excellent in water resistance.
- Use in combination with the Instant Fitting [W Series] or the Speed Controller PSW to make the entire piping system fireproof.

Use

- Air and water line tubing for spot welding robots
- Pneumatic equipment tubing

Specifications

Type	Shape	Fluid Used	Operating Temperature Range	Maximum Operating Pressure*1	Fitting Used	Fluid Used	Fitting Page
Two-Layered Spatter Tubing: SP4	Two-Layered Straight	Air	-20~+60	Refer to Dimensions Table	Instant Fitting: W Series	Air/Water	139, 140, 155~164
		Water	0~+60°C		Instant Fitting: M Series		139~153
Three-Layered Spatter Tubing: SPF	Three-Layered Straight	Air	-20~+60°C	Refer to Dimensions Table	Instant Fitting: W Series	Air/Water	139, 140, 155~164
			0~+60°C		Instant Fitting: M Series		139~153
					Brass Fitting		173~182

*1 The maximum operating pressure in the dimensions table is pressure under conditions using air at 23°C. It will change depending on the fluid and temperature; please refer to page 28 and use at the pressure below.

Air: 1/4 or below the burst pressure by temperature

Water/Oil: 1/6 or below the burst pressure by temperature

Spatter Tubing

SP4 Two-Layered Spatter Tubing

RoHS Compliant Product

Part No.	Inner Tube Size O.D.x I.D. (mm)	Cover Thickness (mm)	Burst Pressure 23°C (MPa)	Max. Operating Pressure 23°C (MPa)	Min. Bending Radius (mm)	Standard Length (m)
SP4-06	6×4	1	4.7	<1.1	15	20 · 100
SP4-08	8×6	1	3.5	<0.88	28	20 · 100
SP4-10	10×7.5	1	3.5	<0.88	35	20 · 100
SP4-12	12×9	1	3.5	<0.88	45	20 · 100



- Flame-resistant resin (UL94V-0 compliant) is used for the outer cover, making it optimal for tubing for spot welding equipment.
- Using the dedicated stripper (with tubing cutter) allows quick peeling of the outer layer according to the insertion margin of the Instant Fitting W Series. Furthermore, the insertion margin pitch is indicated on the outer part, making it easier to understand the peeling length at a glance.
- For standard length and color, please refer to the following.

Standard Length and Color

Type	Part No.	Tube Size O.D.x I.D. (mm)	Standard Length and Color																										
			20m									100m																	
			Black	Red	Blue	Green	White	Yellow	Light Beige	Light Red	Light Green	Black	Red	Blue	Green	White	Yellow	Light Beige	Light Red	Light Green									
SP4	SP4-06	6×4	○	○	○	○	○													○	○	○	○	○	○	○	○	○	○
	SP4-08	8×6	○	○	○	○	○													○	○	○	○	○	○	○	○	○	○
	SP4-10	10×7.5	○	○	○	○	○													○	○	○	○	○	○	○	○	○	○
	SP4-12	12×9	○	○	○	○	○													○	○	○	○	○	○	○	○	○	○

SPF Three-Layered Spatter Tubing

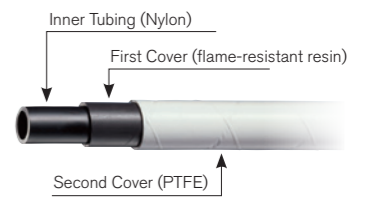
RoHS Compliant Product

Part No.	Inner Tube Size O.D.x I.D. (mm)	First Cover Thickness (mm)	Second Cover Thickness (mm)	Burst Pressure 23°C (MPa)	Max. Operating Pressure 23°C (MPa)	Min. Bending Radius (mm)	Standard Length (m)
SPF-06	6×4	1.0	0.8	4.7	<1.1	15	10 · 50
SPF-08	8×6	1.0	0.8	3.5	<0.88	28	10 · 50
SPF-10	10×7.5	1.0	0.8	3.5	<0.88	33	10 · 50
SPF-12	12×9	1.0	0.8	3.5	<0.88	42	10 · 50

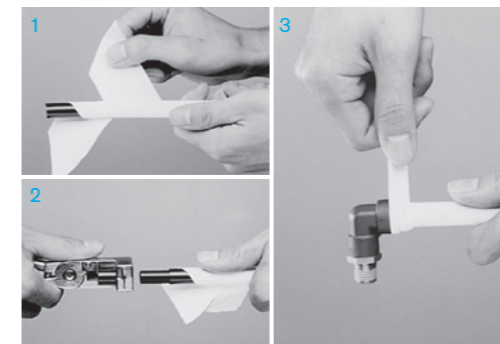


- Standard Color: White (Second Cover)
- By using flame-resistant resin (UL94V-0 compliant) for the first cover, and wrapping fluoropolymer PTFE (flame-resistant) on the second cover, spatter (spark) barely accumulates; therefore you can use it for arc welding and gas welding.
- Highly flexible and excellent in weathering and water resistance.
- Using the dedicated stripper (with tubing cutter) and the Instant Fitting W Series (UL94V-0 compliant) enables quick piping work.

Drawing



How to Use the Three-Layered Spatter Tubing SPF

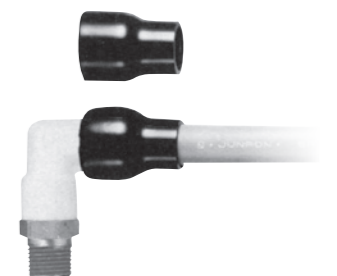


- 1 Peel off the second cover.
 - 2 Using the dedicated stripper (TS stripper), peel off the first cover.
 - 3 Attach the Instant Fitting W Series (flame-resistant UL94V-0 compliant), then wrap the sealing tape around the boundary between the tubing and the Instant Fitting approx. three turns to fix it in place.
- Please use a commercially-available product for the sealing tape.

CAP Spatter Protection Cap

RoHS Compliant Product

Part No.	Applicable Instant Fitting
CAP-06	W Series φ 6
CAP-08	W Series φ 8
CAP-10	W Series φ10
CAP-12	W Series φ12



- This prevents faulty attachment and removal of the tubing by protecting the release ring area from spatters.
- The material is equivalent to flame-resistant UL94V-0.

TS | TS Stripper

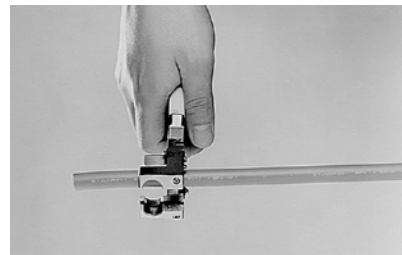


Part No.	Applicable Tubing
TS-06	SP4-06
TS-08	SP4-08
TS-10	SP4-10
TS-12	SP4-12

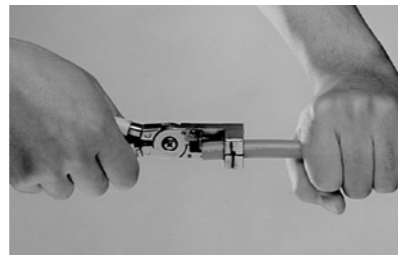
- The outer cover of the two-layer spatter tubing SP4 can be easily peeled off to the insertion length of the Instant Fitting W Series.
- The tubing cutting mechanism is also available, enabling you to use it as a tubing cutter.



How to Use the TS Stripper



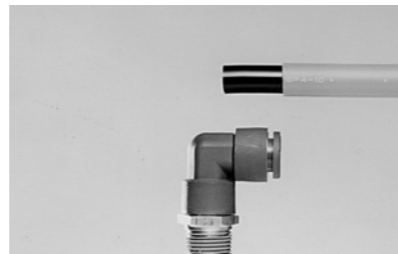
1
Cut the tube at right angles to the axial direction.



2
Insert the tubing until the butting part, then rotate the stripper left and right.



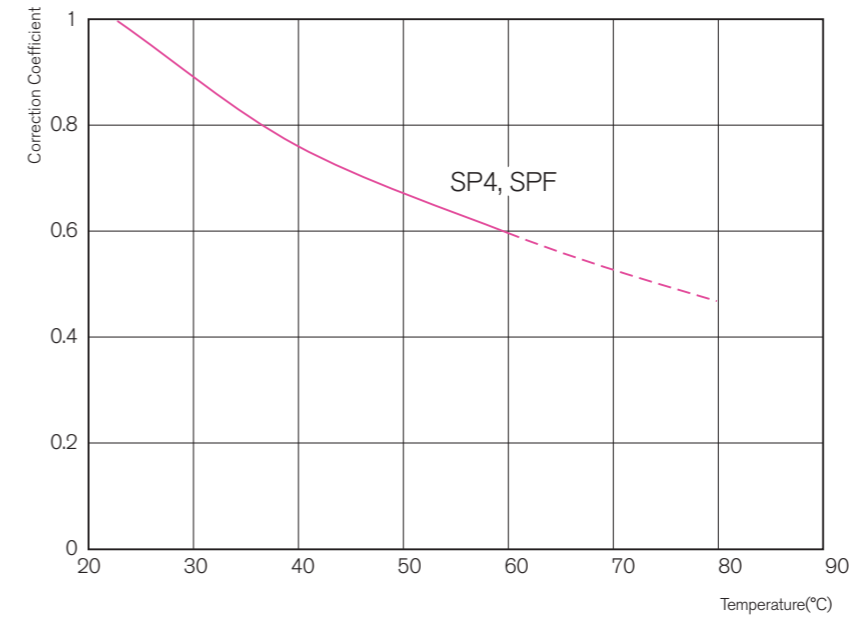
3
While holding onto the tubing stripper, press on the stripper with your thumb.



4
Separation will be completed to the length of the insertion.

Technical Data

How to Calculate the Maximum Operating Pressure by Temperature for Spatter Tubing



Correction Coefficient Graph for Burst Pressure by Temperature for Spatter Tubing

$$[\text{Burst pressure at certain temperature}] = [\text{Burst pressure at } 23^{\circ}\text{C (refer to table)}] \times [\text{Correction coefficient in graph}]$$

Operating Pressure

Please use at the pressure below.

Air: 1/4 or below the burst pressure by temperature

Water/Oil: 1/6 or below the burst pressure by temperature