

COVALENCE® FCWS-F

Product Information

Product description: The FCWS-F is a wrap-around heat-shrinkable sleeve, with a specially designed zipper closing system, allowing a fast and simple installation. FCWS-F products are used for protection of flanges, adaptors, collars and couplers. The fiberglass-reinforced woven backing gives the FCWS-F a high mechanical resistance as well as a high recovery capacity. In addition to the sleeve, a cardboard sheet is supplied to keep the flange nuts & bolts clean, allowing easy re-entry and disassembly when necessary.

Construction: two-layer system.

- **First layer:** Visco-elastic sealant.
- **Second layer:** Fiberglass reinforced, radiation cross-linked, polyethylene backing.

FCWS-F is installed using standard gas torches. The installation is carried out directly on the cleaned and prepared pipe surface and flange. After preheating, the corrugated cardboard sheet is wrapped around the flange to be sealed. The heat-shrinkable sleeve is positioned centrally over the flange and closed, using the zipper closure. When heated above 125°C (257°F), the sleeve shrinks tightly around the substrate. During recovery, the adhesive softens and flows to form a tight bond. The bond strength builds up during cool down and is fully retained after completion of the job.

Features:

- Backing with integrated fiberglass reinforcement.
- 65% shrink ratio – conforms to high transitions.
- High mechanical resistance backing.
- No primer required.
- Specially formulated sealant.
- Sealing adhesive automatically flows and repairs minor mechanical damages.
- Low preheat sensitivity & proven functionality.
- Zipper closure system.
- No special equipment required.

Benefits:

- Tough and long lasting. Provides a high recovery capacity.
- Reduces inventory & logistics costs.
- Resists abrasion, impact and penetration.
- No drying time and easy application.
- Ensures a strong bond & tight seal to virtually any substrate. Maintains its elasticity and sealing characteristics over a wide temperature range.
- "Self-healing effect."
- Simple & fast installation.

Product selection guide

Max operating temperature	50°C (122°F).
Compatible line coatings	PE, PP, FBE, Coal Tar, Tape, Asphalt & Plastics
Min. preheat temperature	50°C (122°F)
Recommended pipe preparation	ST3

Product properties

Backing

Property	Test method	Typical value
Burstring strength	DIN 30672	3500 N

Adhesive

Property	Test method	Typical value
Softening point	ASTM E-28	92° C (198°F)
Shear strength	DIN 30672	8 N/cm ²

Installed sleeve

Property	Test method	Typical value
Peel strength	DIN 30672 @ 100 mm/min EN12068 @ 10 mm/min	25 N/cm 0,9 N/mm

Product thickness

Backing as supplied	1.30 mm (0.051 in)
Adhesive as supplied (mm)	1.2 mm (0.047 in)

Ordering information

Covalence® FCWS-F type products are available as a kit containing

- A sleeve (pre-cut sleeve with zipper closure)
- A corrugated cardboard sheet

Example FCWS-F-DN1600-600

Designation	Standard ordering options
DN1600 Outside pipe diameter	DN50 (2.375) – DN2000 (80")
600 Sleeve width (mm)	12 (300 mm), 17" (425 mm), 24" (600 mm)

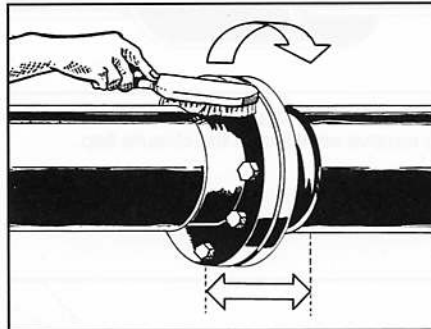
General Information

Installation guide	For proper product installation, see latest installation instruction.
Handling	Handle with care. Keep boxes upright.
Storage	Store indoor, clean and dry, away from direct sunlight in a cool place below +50°C. Unlimited shelf life.
Documentation	Extensive information is available on our website. Application instructions and other documentation can be obtained by contacting our head office, from our local distributor or by sending an email to info@sealforlife.com
Certified staff	Application of the described coating system should be carried out by certified personnel.



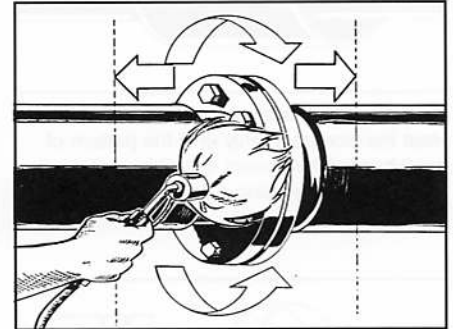
Material and Equipment

1. Appropriate size FlangeSeal
2. Raychem FH-2601 torch or equivalent
3. Propane tank
4. Silicone roller, knife, wire brush, adhesive tape
5. Temperature stick or pyrometer
6. PE- Cleaning solvent
6. Standard safety equipment such as gloves, goggles, hard hats etc.
7. Optional: filler grease S1172



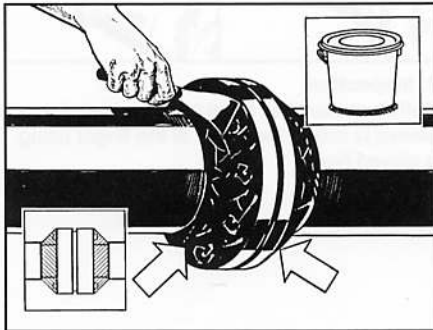
1. Preparation

Hand or power brush steel surface to remove all loose and foreign materials. Lightly brush pipe coating to remove any surface contamination and wipe away any loose materials.



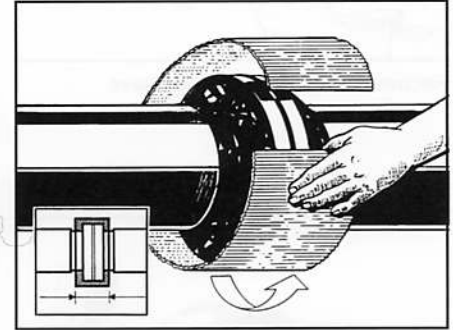
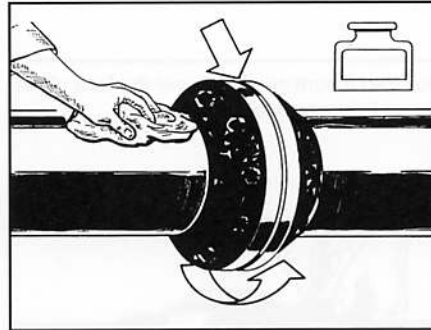
2. Preheat

Adjust torch to give billowy yellow flame — about 20" (500 mm) for 10-15 psi with FH-2601 propane torch. Preheat to about 140°F (60°C.) Preheating reduces installation recovery time and improves adhesion.



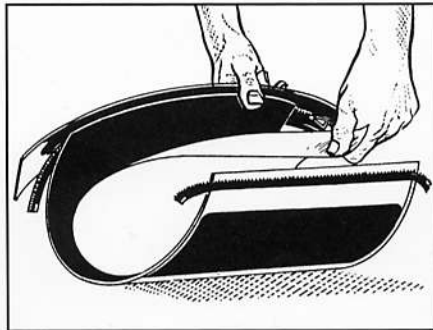
3. Optional usage of filler grease

S-1172 grease may be purchased separately to fill around the bolts in order to eliminate all air voids under the recovered FlangeSeal. The grease is applied by hand spreading with a paint scraper.



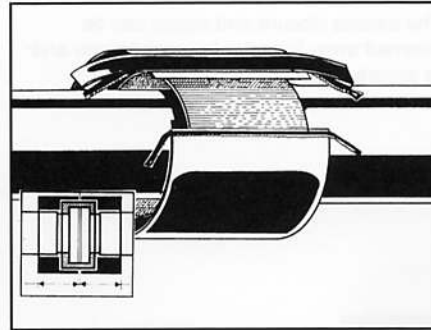
4. Application of cardboard

Wrap cardboard support around the top of the flange. Tape cardboard ends together.

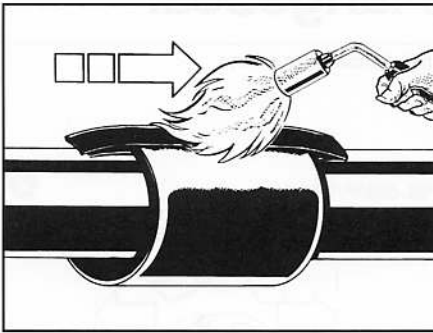


5. Sleeve Installation

Remove release liner from the sleeve.

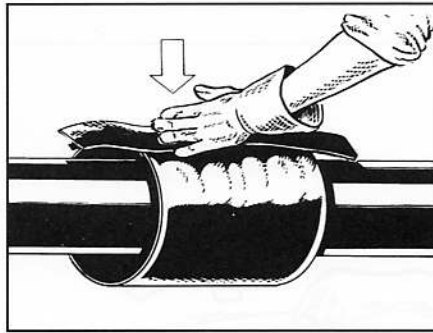


Center sleeve and wrap it around the flange. Completely zip the closure shut and fold closure flap back over the zipper area.

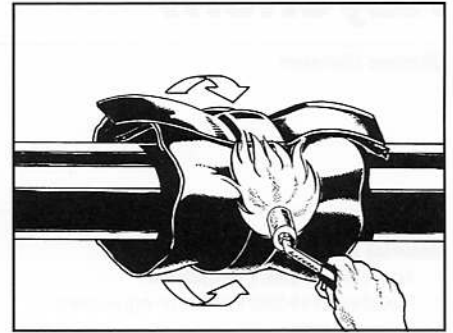


6. Shrinking of sleeve

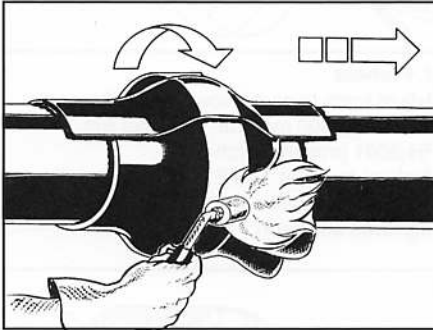
Heat the closure evenly until the pattern of the fabric reinforcement is visible — keep the flame moving by using a paint brush motion.



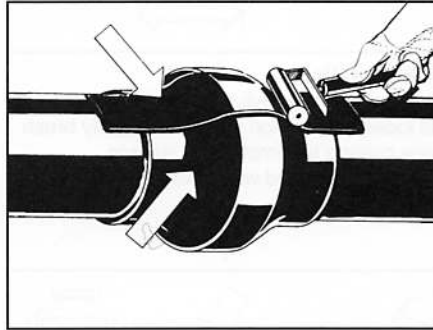
With gloved hand, pat down the closure area to remove wrinkles on the closure flap.



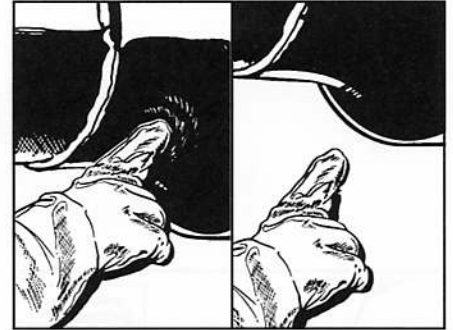
Begin recovering the sleeve by heating circumferentially over the flange area. Heat from the flange toward one end of the sleeve in a circumferential motion.



Recover the other end of the sleeve.

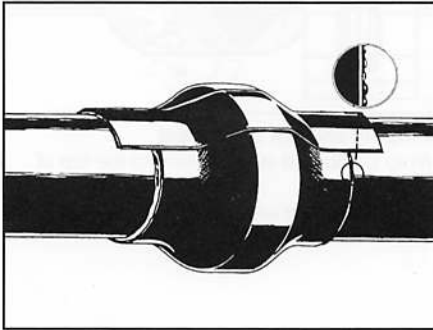


Roll the closure area and over the face of the flange to insure good sealing.

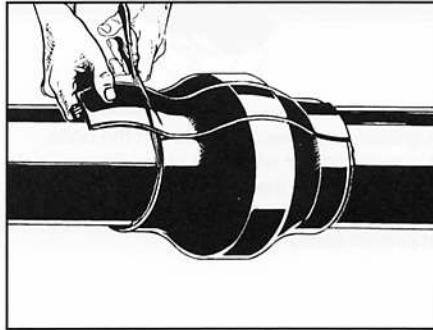


7. Inspection

Sufficient heat has been applied when the sleeve is soft to the touch of the finger using a gloved hand.



The exuding of sealant from the edge of the sleeve indicates sufficient heat has been applied.



The excess closure and zipper can be trimmed away for a neater appearance and to assure no electrical continuity.

* Raychem and FlangeSeal are trademarks of Raychem corporation

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