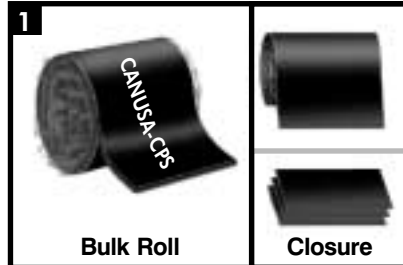


GTS-HT

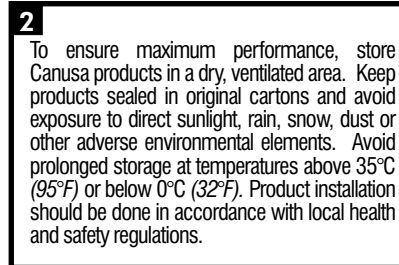
Two-piece sleeve for girth-weld protection of high operating temperature FBE coated pipelines

Product Description



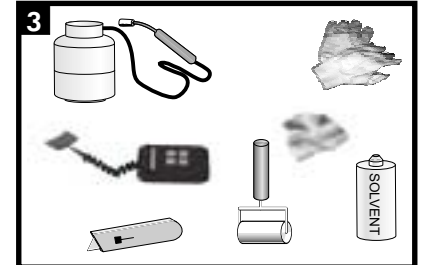
GTS-HT is typically shipped in bulk rolls. CLH closures are shipped either in bulk rolls or pre-cut.

Storage & Safety Guidelines



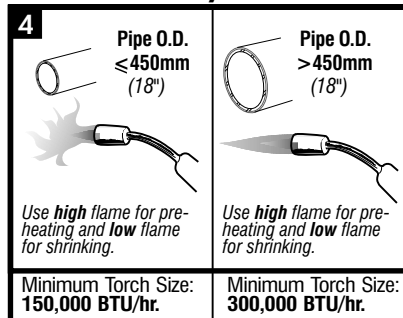
These installation instructions are intended as a guide for standard products. Consult your Canusa representative for specific projects or unique applications.

Equipment List

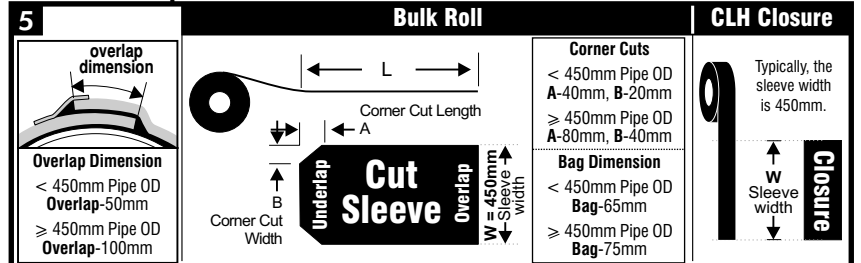


Propane tank, hose, torch & regulator
Appropriate tools for surface abrasion
Knife, roller, rags & approved solvent cleanser
Digital thermometer with suitable probe
Standard safety equipment; gloves, goggles, hard hat, etc.

Flame Intensity & Torch Size

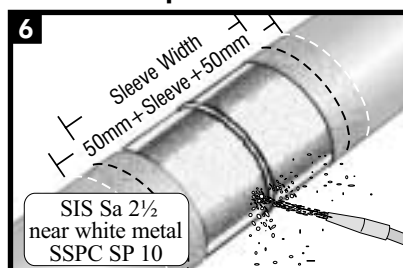


Product Preparation Guidelines



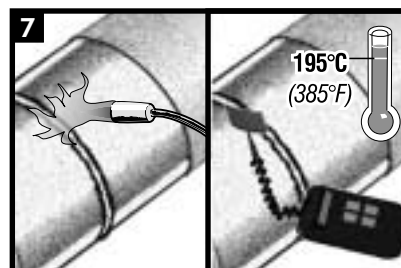
As a guideline, cut the required lengths of Sleeve material (L) and Closure material (W) from the bulk roll as follows **L = coated pipe circumference + overlap dimension + bag dimension** **w = Sleeve Width** Ensure that the sleeve and closure are not damaged or contaminated. Trim corners as shown.

Surface Preparation



Warm the joint area to 40-50°C (100-120°F) before grit blasting. Thoroughly clean the weld area with a grit blaster to "near white metal". Lightly abrade the line coating adjacent to the weld area to a distance 50mm (2") beyond the sleeve width. Wipe clean or air blast the steel and coated areas to remove foreign materials.

Pre-Heat

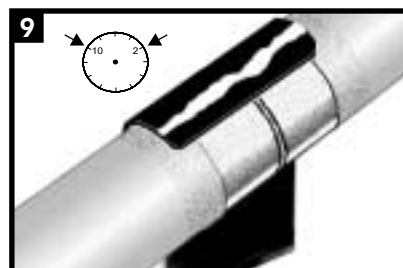


Pre-heat the joint area and the abraded coating to 195°C ± 5° (385°F ± 10°) with the appropriate propane torch. Using a temperature measuring device, ensure that the correct temperature is reached on steel and at least 50mm (2") on each side of the sleeve.

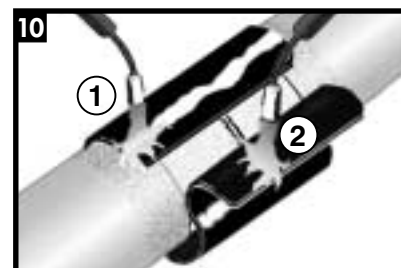
Sleeve Installation



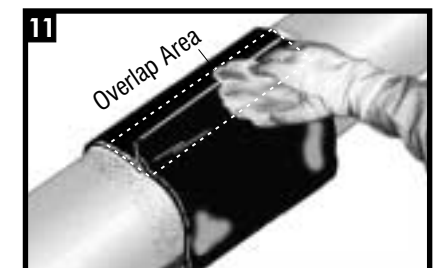
Gently heat the underlap approximately 150 mm (6") from the edge.



Centre the sleeve over the joint so that the sleeve overlaps between the 10 and 2 o'clock positions. Press the underlap firmly into place.

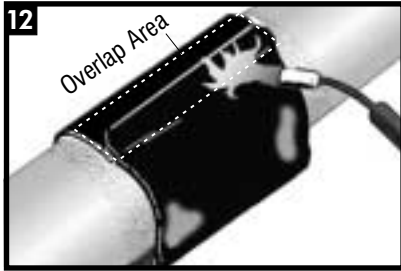


Wrap the sleeve around the pipe, ensuring the appropriate overlap (see box 5). Gently heat the backing of the underlap and the adhesive side of the overlap. Press the overlap into place.

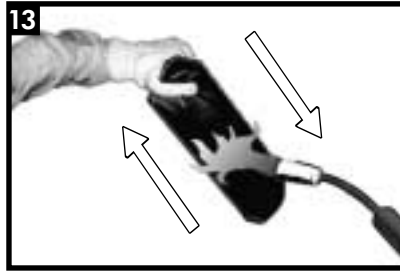


Before applying the closure seal, clean the overlap area of the sleeve with a dry rag and...

GTS-HT



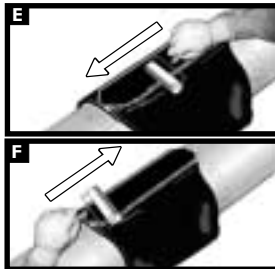
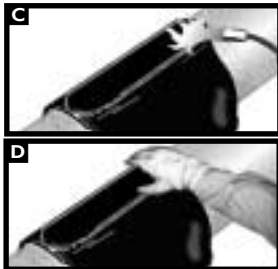
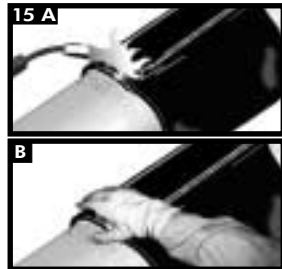
12 ...slightly heat the overlap area of the sleeve (where the closure is going to be applied) by moving the flame from side to side.



13 Cut and prepare the CLH closure seal as noted in Box 5. Pre-heat the adhesive side of the entire closure evenly using a low flame until a shiny finish develops on the adhesive.

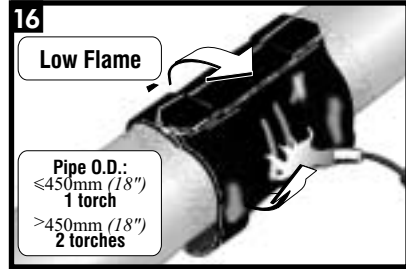


14 Centre the closure seal on the overlapping sleeve. Using a gloved hand, press the closure seal firmly down onto the sleeve. Press from the centre to the ends to ensure good contact is made between the entire closure seal and sleeve.

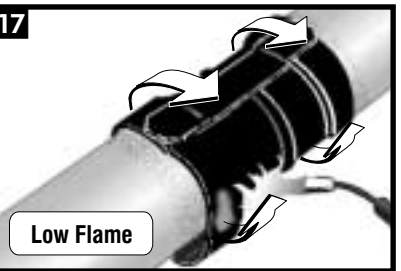


15 A Once the closure seal is in place, gently heat with a medium flame. Using a gloved hand ensure the closure seal is evenly in contact with the sleeve.

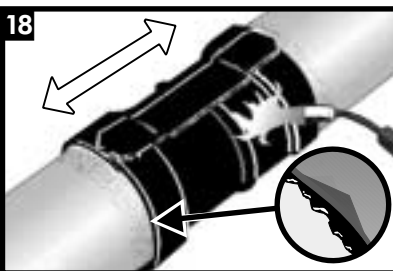
15 B Smooth any wrinkles or air products by gently working them outward from the centre of the closure seal with a roller or a gloved hand.



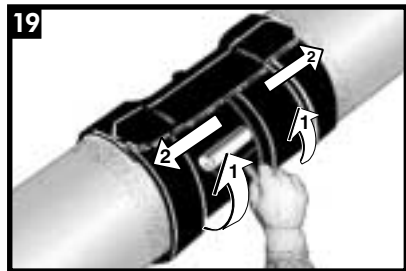
16 Using the appropriate sized torch, begin at the centre of the sleeve and heat circumferentially around the pipe. Use broad strokes. If utilizing two torches, operators should work on opposite sides of pipe.



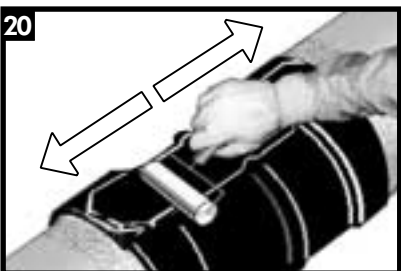
17 Continue heating from the centre toward one end of the sleeve until recovery is complete. In a similar manner, heat and shrink the remaining side.



18 Shrinking has been completed when the adhesive begins to ooze at the sleeve edges all around the circumference. Finish shrinking the sleeve with long horizontal strokes over the entire surface, including closure, to ensure a uniform bond.



19 While the sleeve is still hot and soft, use a hand roller to gently roll the sleeve surface and push any trapped air up and out of the sleeve, as shown above. If necessary, reheat to roll out air.

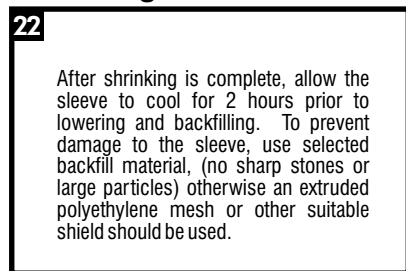


20 Continue the procedure by also firmly rolling the closure with long horizontal strokes from the weld outwards.



21 Visually inspect the installed sleeve for the following:

- Sleeve is in full contact with the steel joint.
- Adhesive flows beyond both sleeve edges.
- No cracks or holes in sleeve backing.



22 After shrinking is complete, allow the sleeve to cool for 2 hours prior to lowering and backfilling. To prevent damage to the sleeve, use selected backfill material, (no sharp stones or large particles) otherwise an extruded polyethylene mesh or other suitable shield should be used.

Inspection

Backfilling Guidelines



A SHAWCOR COMPANY

Canada

CANUSA-CPS
a division of SHAWCOR LTD.
25 Bethridge Road
Rexdale, Ontario
M9W 1M7,
Canada
Tel: +1 (416) 743-7111
Fax: +1 (416) 743-5927

U.S.A./Latin America

CANUSA-CPS
a division of SHAWCOR INC.
2408 Timberloch Place
Building C-8
The Woodlands, Texas
77380, U.S.A.
Tel: +1 (281) 367-8866
Fax: +1 (281) 367-4304

Europe/Middle East

CANUSA-CPS
a division of Canusa Systems Ltd.
Unit 3, Sterling Park
Gatwick Road
Crawley, West Sussex
England RH10 9QT
Tel: +44 (1293) 541254
Fax: +44 (1293) 541777

www.canusacps.com

Asia/Pacific

CANUSA-CPS
BrederoShaw (S) Pte Ltd
101 Thomson Road
#17-01/02, United Square
Singapore
307591
Tel +65-6732-2355
Fax +65-6732-9073