GTS-PP-65

Hybrid Shrink Sleeve for Protection of Subsea Pipeline Field Joints Polypropylene Backing Layer and Mastic Adhesive Layer

Product Description

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Canusa GTS-PP-65 Wrapid Sleeves™ are shipped pre-cut with a pre-attached closure. The adhesive is protected from contamination by an inner liner.

Storage & Safety Guidelines

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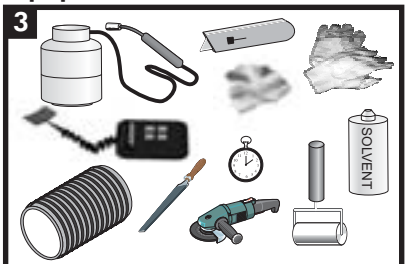
To ensure maximum performance, store Canusa products in a dry, ventilated area. Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements. Avoid prolonged storage at temperatures above 35°C *(95°F)* or below -20°C *(-4°F)*. Product installation should be done in accordance with local health and safety regulations.

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

Equipment List

3



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

Flame Intensity & Torch Size

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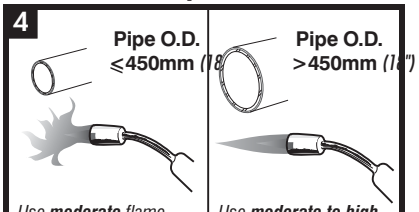

*Use **moderate** flame intensity for pre-heating and shrinking.*	*Use **moderate to high** flame intensity for pre-heating and shrinking.*
Minimum Torch Size: **150,000 BTU/hr.**	Minimum Torch Size: **300,000 BTU/hr.**

Surface Preparation

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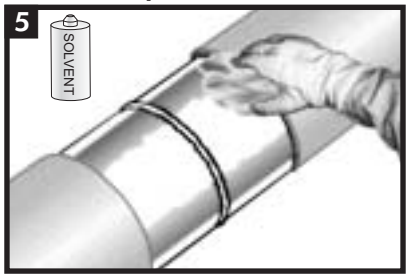

Ensure that the adjacent coating edges are beveled to 30°. Clean exposed steel and adjacent pipe coating with a solvent cleanser to remove the presence of oil, grease, and other contaminants.

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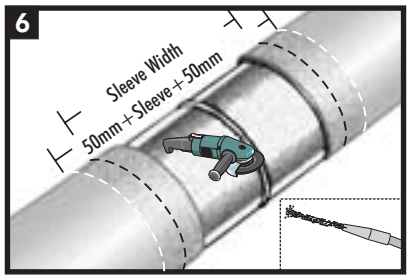

Ensure that the pipe is dry before cleaning. Using a power wire brush, abrade the pipe to a minimum of St3/SP3 (as an option, abrasive blast to Sa2.5/SP10). Lightly abrade the pipe coating adjacent to the cutback area to a distance of 50mm (2") beyond each end of the sleeve width for 3LPE or 3LPP coating types only.

Pre-Heat

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Wipe clean or air blast the steel and pipe coating to remove foreign contaminants. Conduct salt contamination, surface cleanliness and surface profile checks in accordance with client procedures, requirements and frequency.

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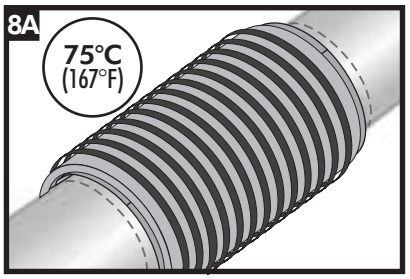
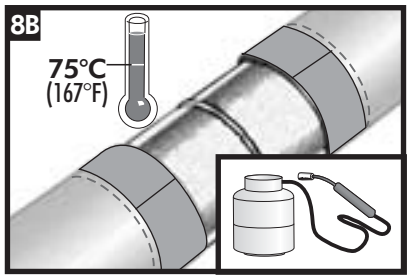


8B



Using the appropriate sized induction coil or propane torch(es), pre-heat the joint area to > 75°C (167°F). When heating with torch, use heat shields to protect mainline coating from the flame. Using a temperature measuring device, ensure that the correct temperature is reached on the steel and the coating overlap which the sleeve will cover. Check to ensure the correct minimum temperature has been achieved on each quadrant of the bare steel cutback surface.

Sleeve Installation

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Partially remove the release liner and gently heat the underlap approximately 150 mm (6") from the edge.

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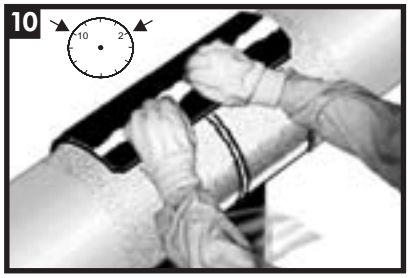

Centre the sleeve over the joint so that the sleeve overlaps between the 10 and 2 o'clock positions. Press the underlap firmly into place.

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Remove the remaining release liner.

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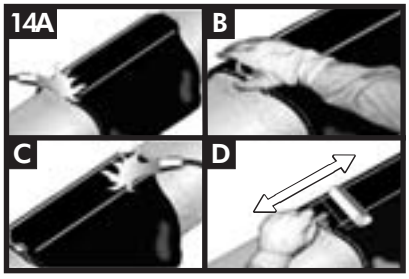
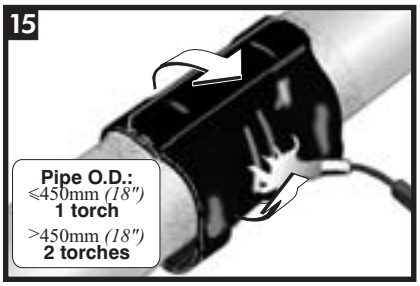
Sleeve Installation

Wrap the sleeve loosely around the pipe, ensuring the appropriate overlap. Gently heat the backing of the underlap and the adhesive side of the overlap.

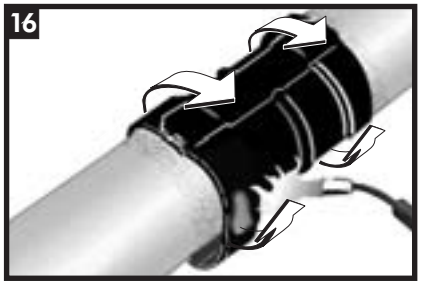
Press the closure firmly into place.



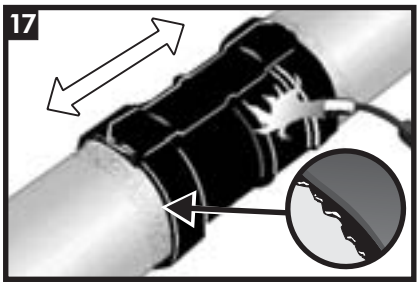
Gently heat the closure and pat it down with a gloved hand. Repeating this procedure, move from one side to the other. Smooth any wrinkles by gently working them outward from the centre of the closure with a roller.



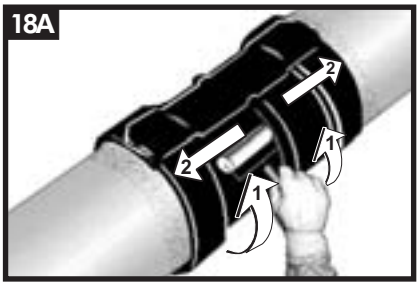
Using the appropriate torch, begin at the centre of the sleeve and heat circumferentially around the pipe. Use broad strokes. If utilizing two torches, operators should work on opposite sides of pipe.



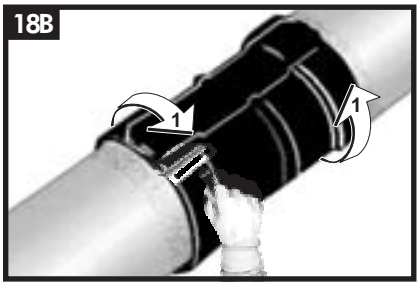
Continue heating from the centre toward one end of the sleeve until recovery is complete. In a similar manner, heat and shrink the remaining side.



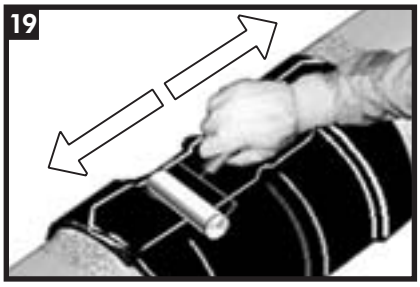
Shrinking has been completed when the adhesive begins to ooze at the sleeve edges all around the circumference. Finish shrinking the sleeve with long horizontal strokes over the entire surface to ensure a uniform bond.



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.



While the sleeve is still hot and soft, use a teflon roller to ensure the sleeve edges are flush against the pipe surface by rolling the entire sleeve edge circumference.

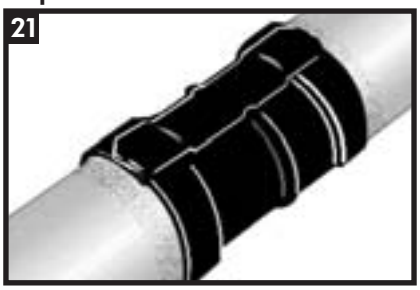


Continue the procedure by also firmly rolling the closure with long horizontal strokes from the weld outwards.

Quality Check

Test sleeve adhesion by gently pressing the sleeve edge with a gloved finger. The sleeve is well bonded when the adhesive and coating remain intimately contacted. If required to improve bonding, additional heat should be applied to the sleeve.

Inspection



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.

Laying Guidelines

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After shrinking is complete:

- products for offshore can be quenched immediately and layed
- products of onshore must be allowed to cool for 2 hours prior to lowering and backfilling.

CANUSA-CPS
A SHAWCOR COMPANY

www.canusacps.com

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

Asia/Pacific

CANUSA-CPS
Bredero Shaw (S) Pte. Ltd.
400 Orchard Road
Nos. 12-08/09,
Orchard Towers
Singapore 238875
Tel: +65-6732-2355
Fax: +65-6732-9073

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