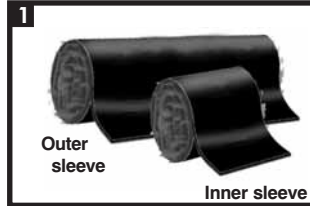


# Wrapid Sleeves™ for Insulated Pipelines

Heat shrinkable sleeve system for insulated steel pipe joints

## Product Description



Canusa Inner & Outer Sleeves are shipped pre-cut with a pre-attached closure. The adhesive is protected from contamination by an inner liner.

## Recommended Procedures

Canusa-CPS recommends the use of heat shrink sleeves for both the inner protection over the steel and for the outer protection over the polyurethane foam. For operating temperatures up to 110°C use the appropriate diameter 300mm wide Canusa INR-110 as the inner protection. The standard outer sleeve is a 600mm wide Canusa KTS.

## Storage & Safety Guidelines

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 storage at temperatures above 35°C (110°F) or below -20°C (-4°F). Product installation should be done in accordance with local health and safety regulations.

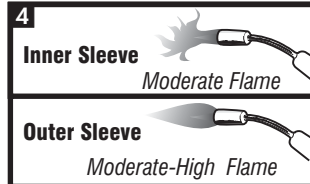
These installation instructions are intended as a guide for standard products. Consult your Canusa representative for specific projects or unique applications.

## Equipment List



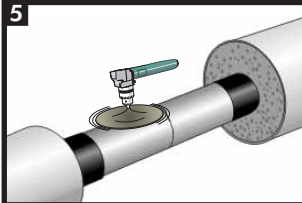
Propane tank, hose, torch & regulator  
Power wire brush, knife, roller,  
Rags & ethanol (min. 94%) cleanser  
Temperature measuring device  
Standard safety equipment; gloves, goggles, hard hat, etc.

## Torch Type and Flame Intensity



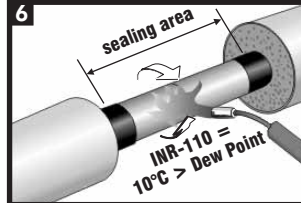
Canusa recommends a short handled, short tip with a maximum 400,000 BTU torch size. Long handled, heavy torches such as "Tiger Torches" are *not* recommended. Contact your Canusa representative for your nearest approved torch dealer.

## Girth Weld Surface Preparation



Using a power wire brush, clean the steel and corrosion coating to a minimum of St 2 (SP2) to remove mill scale and surface rust. Clean the abraded surface with a clean cloth to remove dust, dirt and debris.

## Inner Sleeve - Pre-Warm

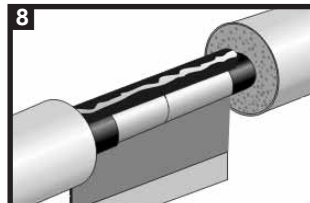


For INR-110, use a propane torch to heat the sealing area to a temperature of 10°C (18°F) above the dew point temperature. For other inner sleeves, check the recommended preheat temperature table. Using a temperature measuring device, ensure that the correct temperature is reached on the steel. Direct the flame towards the centre of the cutback to prevent damage to the insulate layer.

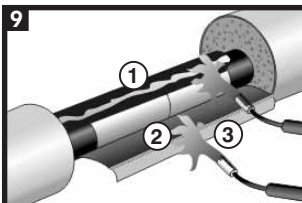
## Inner Sleeve Installation



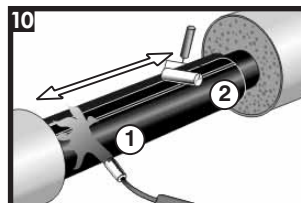
Partially remove the release liner and gently heat the underlap approximately 150 mm (6") from the edge.



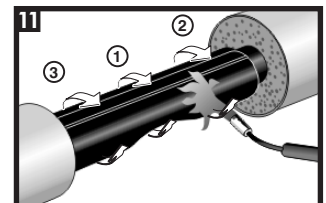
Centre the inner sleeve on the service pipe, ensuring it overlaps onto the factory coating. Remove the release liner from the sleeve.



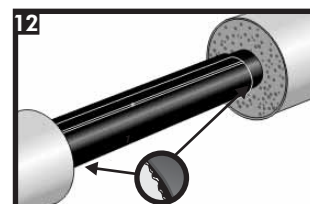
Wrap the sleeve loosely around the pipe, ensuring the appropriate overlap.  
1. Gently heat the backing side of the underlap  
2. Gently heat the adhesive side of the overlap  
3. Gently heat the adhesive (green) side of the closure until it becomes glossy.



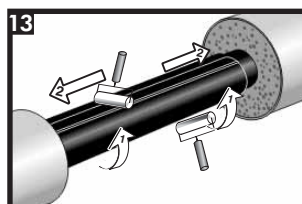
Press the closure firmly into place. Gently heat the closure and pat it down with a gloved hand. Repeating this procedure, move from one side to the other. Smooth any wrinkles by gently working them outward from the centre of the closure with a roller.



Using the appropriate torch, begin at the centre of the sleeve and heat circumferentially around the pipe. Use broad strokes. 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.

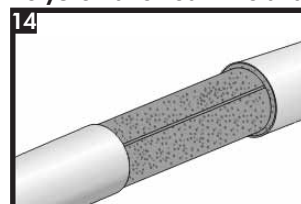


Shrinking is complete when the adhesive begins to ooze out the edges and the sleeve is in full contact with the pipe.

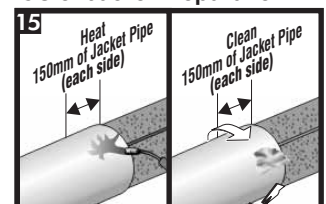


While the sleeve is still hot & soft, use a roller to roll the sleeve surface and push any entrapped air up and out of the sleeve.

## Polyurethane Foam Installation Outer Jacket Preparation



Install the polyurethane foam as per the manufactures instructions.

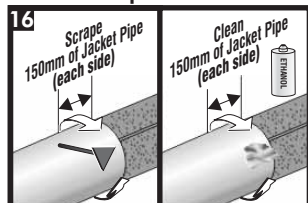


Use a propane torch with a **low** flame to dry the jacket pipe and service pipe. Use a dry, grease and lint-free rag to wipe clean the jacket pipe and service pipe.

# Wrapid Sleeves™ for Insulated Pipelines

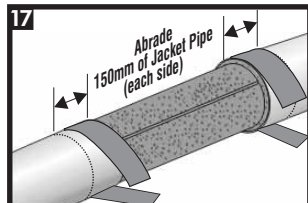
## Heat shrinkable sleeve system for insulated steel pipe joints

### Surface Preparation



Using a scraper, remove any burrs from the edges of the jacket pipe. Clean 150mm (6") of the jacket pipe surface, on each side of the cutback, with a solvent.

### Surface Abrasion



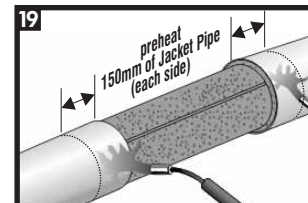
Using grit paper, roughen 150mm (6") of the jacket pipe surface, and all of the polyurethane foam. Use a dry rag - free of lint and grease - clean the roughened surface to remove any loose particles.

### Sleeve Preheat Requirements

Sleeve	Minimum Preheat Temp.
K-60/K-60UV	65°C (140°F)
TBK-60	75°C (167°F)

Use the above table to determine the outer sealing sleeve's preheat requirement.

### Outer Sleeve - Preheat

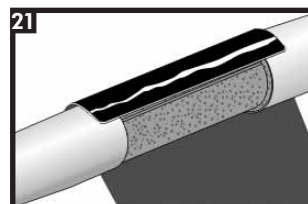


Using a propane torch warm 150mm (6") of the jacket pipe surface to the temperature shown above. **Do not heat the polyurethane foam.**

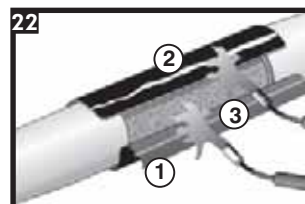
### Outer Sleeve Installation



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



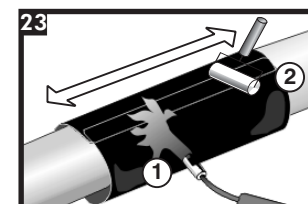
Centre the sleeve over the foam ensuring equal overlap onto the jacket. Press the underlap firmly into place.



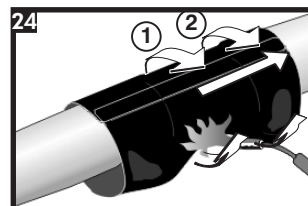
Wrap the sleeve loosely around the pipe, ensuring the appropriate overlap.

1. Remove any release liners from the closure
2. Gently heat the backing of the underlap
3. Gently heat the adhesive side of the overlap

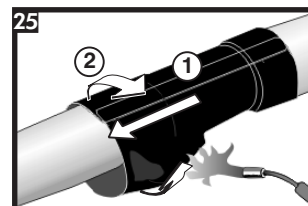
**Ensure not to damage the polyurethane foam insulation during heating.**



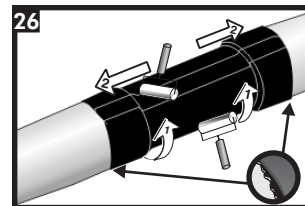
Gently heat the closure and pat it down with a gloved hand. Repeating this procedure, move from one side to the other. Smooth any wrinkles by gently working them outward from the centre of the closure with a roller.



Using the appropriate torch, begin at the centre of the sleeve and heat circumferentially around the pipe. Use broad strokes. Continue heating from the centre toward one end of the sleeve until recovery is complete.

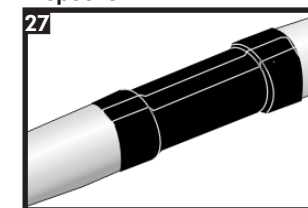


Continue heating from the centre toward the remaining side.



Shrinking has been completed when the adhesive begins to ooze out the edges and the sleeve is in full contact with the pipe. While the sleeve is still hot & soft, use a roller to roll the sleeve surface and push any entrapped air up and out of the sleeve.

### Inspection



Visually inspect the installed sleeve for the following:

- Sleeve is in full contact with polyurethane foam and jacket pipe surface.
- Adhesive flows beyond both sleeve edges.
- No cracks or holes in sleeve backing.

### Backfilling Guidelines

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.



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