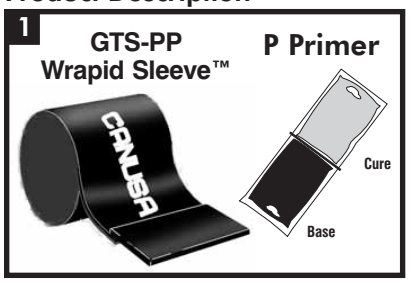
CANUSA-CPS
A SHAWCOR COMPANY

Installation Guide

GTS-PP - Wrapid Sleeve™

3-Layer High Performance Crosslinked Polypropylene Heat Shrink Sleeve System for the girth weld protection of 3-layer polypropylene coated pipelines

Product Description



Wrapid Sleeve™ GTS-PP wraparound sleeves are designed for the corrosion protection of polypropylene coated pipelines. The joint completion system also uses an epoxy primer.

Storage & Safety Guidelines

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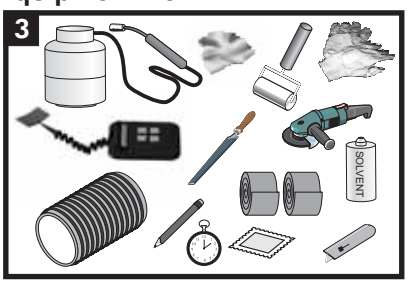
To ensure maximum performance, store Canusa products in a dry, ventilated area. Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements. Avoid prolonged storage at temperatures above 50°C *(122°F)* or below -20°C *(-4°F)*. Product installation should be done in accordance with local health and safety regulations.

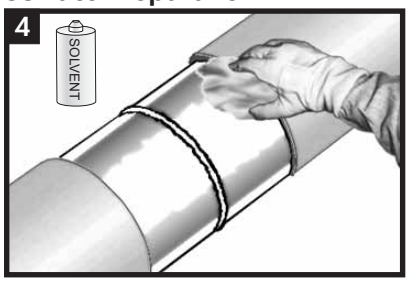
These installation instructions are intended as a guide for standard products. Consult your Canusa representative for specific projects or unique applications.

Equipment List

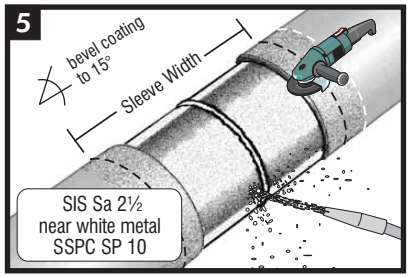


Propane tank, hose, torch & regulator
Appropriately sized induction coil, stop watch
Tools for surface abrasion, power grinder,
Digital thermometer with suitable probe,
Spacer Blocks (recommended),
Protective Heat Shields (pre-sized for the pipe diameter),
Knife, pencil, roller, rags & approved solvent cleanser
Epoxy applicator pad, wet film thickness gauge
Standard safety equipment; gloves, goggles, hard hat, etc.

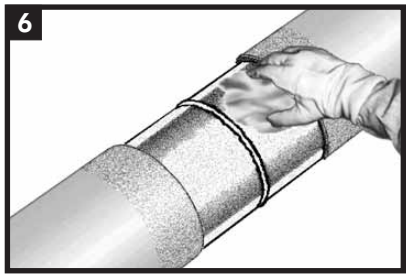
Surface Preparation



Clean any exposed steel and adjacent pipe coating with a solvent cleanser to remove the presence of oil, grease, and other contaminants.

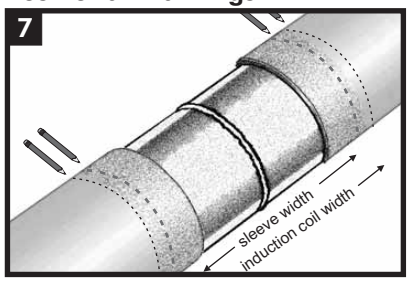


Ensure that the pipe dry before cleaning. Thoroughly clean the weld area with a sand or grit blaster to "near white metal" SIS Sa 2½ or equivalent. **Using a grinder with a grind disk with roughness rating of 40-60, ensure that the PP mainline coating edges are beveled to 15° from the horizontal and that the adjacent PP pipe coating is cleaned, exposing fresh PP, to a distance of 25mm beyond the sleeve width.**



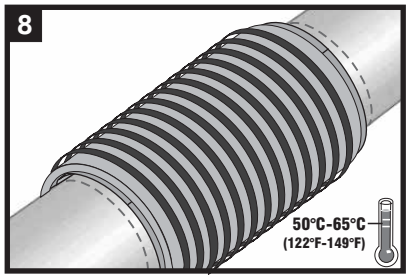
Wipe clean or air blast the steel and pipe coating to remove foreign contaminants.

Positional Markings



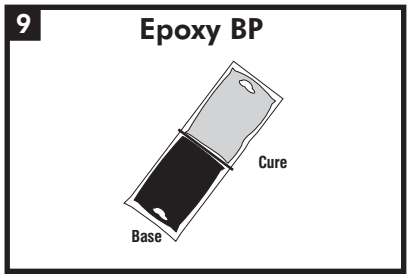
Measure and mark the sleeve width of the Wrapid Sleeve™ GTS-PP sleeve across the joint. Also, measure and mark the induction coil so it is centered over the joint and sleeve.

Pre-Warm



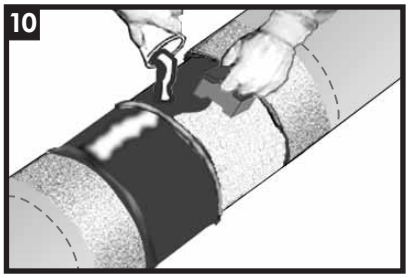
Using the appropriate sized induction coil or propane torch, pre-warm the steel area to 50-65°C *(122-149°F)*. Using a temperature measuring device, ensure that the correct temperature is reached on the steel.

Epoxy Primer



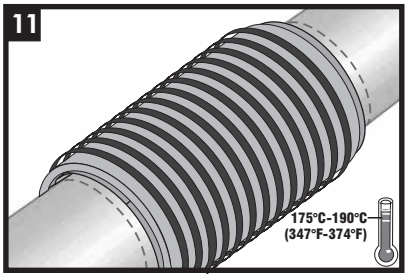
Follow the Preparation, Mixing and Application instructions provided with the supplied Canusa Epoxy Pack. For partial kit quantities: mix the P Primer Cure with the P Primer Base (4 parts base to 1 part cure **by volume**). Mix for a minimum of 1 minute to assure uniform mixture.

Epoxy Primer Application



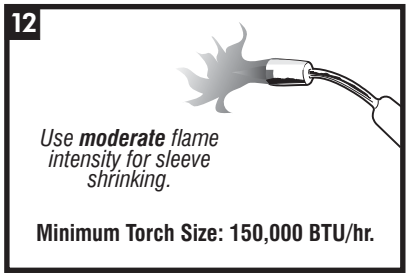
Apply mixed epoxy to a thickness of 150-230 μm *(6-9 mils)* on all exposed bare metal.

Epoxy Curing and Pre-Heat

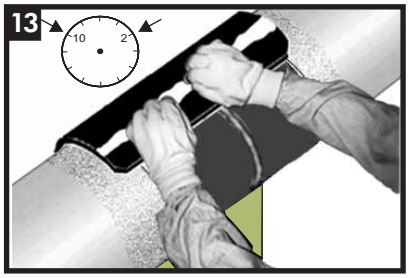


Carefully, move the induction coil into place and pre-heat the steel cutback to 175-190°C (347-374°F). It is recommended that protective heat shields are wrapped over the overlap area's of the mainline coating to prevent lifting (where required).

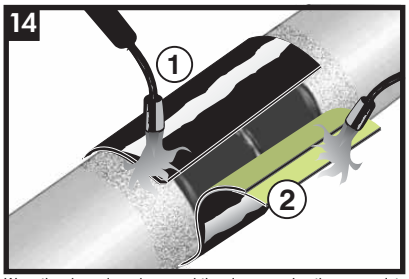
Sleeve Installation



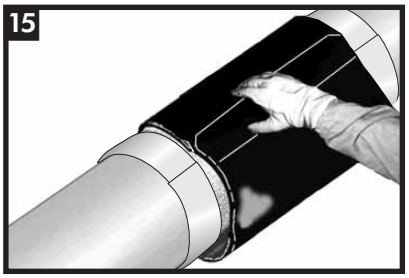
GTS-PP - Wrapid Sleeve™



Place the underlap of the sleeve onto the joint, centering the sleeve such that the sleeve overlap is positioned at either the 10 or 2 o'clock position. Press the underlap firmly into place. **For J-Lay installation, use Canusa sleeve stabilization bracket to maintain sleeve in the vertical position. Optional spacers can be inserted under the edge of the sleeve to minimize the potential of air entrapment.**

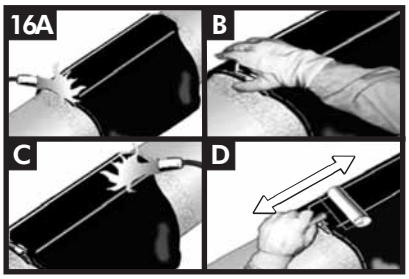


Wrap the sleeve loosely around the pipe, ensuring the appropriate overlap. Ensure that the overlap of the sleeve is a nominal width of 75mm (minimum acceptable width is 50mm). Before finishing wrapping the sleeve: (1) heat the backing side of the underlap until the backing starts to recover (2) heat the adhesive side of the closure until the adhesive appears glossy.

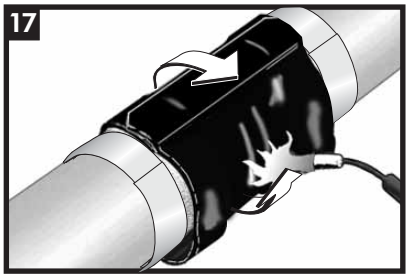


Press the closure and overlap firmly into place. Wrap the protective heat shields around the pipe beside the ends of the sleeve (where required). Ensure overlap of 50mm. Wrap the the protective heat shields around pipe beside the ends of the sleeve. (Strongly recommended.)

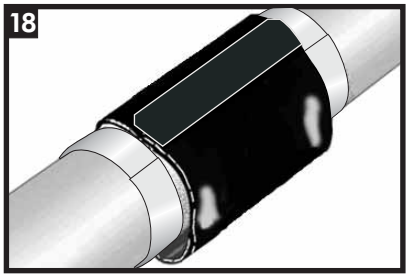
Sleeve Installation



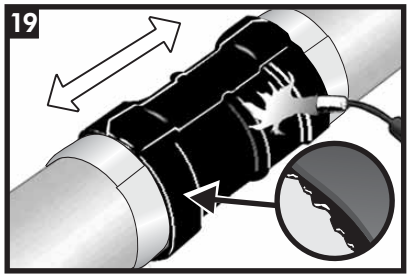
Gently heat the closure and pat it down with a gloved hand. Repeating this procedure, move from one side to the other. Smooth any wrinkles by gently working them outward from the centre of the closure with a roller.



Using the torch, begin heating at the centre of the sleeve and heat circumferentially around the pipe. If the backing becomes shiny or gives off smoke, move the torch away from that area. **For J-Lay installation, when the centre portion of the sleeve is shrunk tightly to the pipe, remove the sleeve stabilization bracket.**

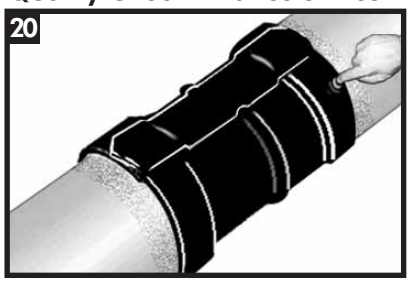


Continue heating from the centre toward one end of the sleeve until recovery is complete. In a similar manner, heat and shrink the remaining side.



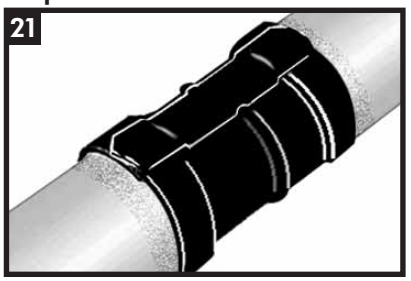
Initial shrinking has been completed when the sleeve fully conforms to the entire pipe profile. Finish shrinking the sleeve with long circumferential strokes over the coating overlap surface to ensure a uniform bond. Adhesive should begin to ooze at the sleeve edges all around the circumference.

Quality Check - Adhesion Test



Test sleeve adhesion by gently pulling the edge of the backing back to ensure that the adhesive remains in place and is fully bonded to the factory coating. 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. Remove protective heat shields when application is completed.

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.
- Minimum overlap of 50mm onto coating after cooled.

Onshore and Offshore Guidelines

After shrinking is complete, allow the sleeve to cool to less than 90°C prior to laying (for offshore applications, product can be water quenched).

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