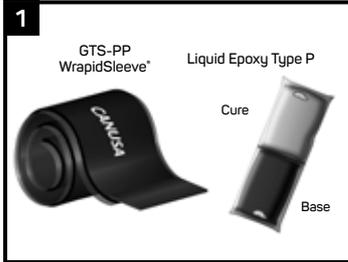


GTS-PP - WrapidSleeve®

Factory Grade 3LPP Field Applied Coating System

Product Description



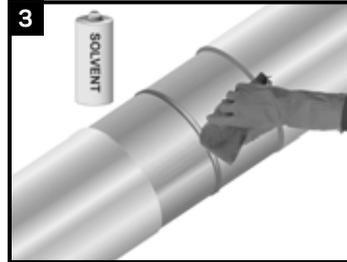
WrapidSleeve® GTS-PP wraparound sleeves are designed for the corrosion protection of polypropylene coated pipelines. The joint completion system also uses liquid epoxy. For alternate configurations, consult your Canusa-CPS representative for project specific recommended installation guidelines.

Equipment List

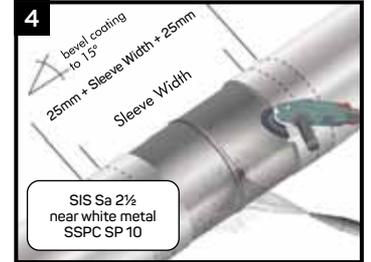


Propane tank, hose, torch & regulator; Appropriately sized induction coil, stop watch; Tools for surface abrasion, power grinder; Digital thermometer with suitable probe; Spacer Blocks (recommended); Protective Heat Shields (pre-sized for the pipe diameter); Knife, pencil, roller, rags & approved solvent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

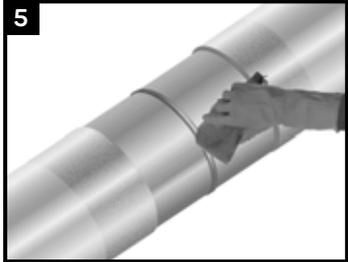
Surface Preparation



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

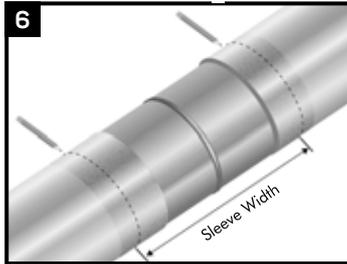


Ensure that the pipe is dry before cleaning. Thoroughly clean the weld area with a sand or grit blaster to "near white metal" SIS Sa 2½ or equivalent. Using a grinder with a grind disk with roughness rating of 40-60, ensure that the PP mainline coating edges are beveled to 15° from the horizontal and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



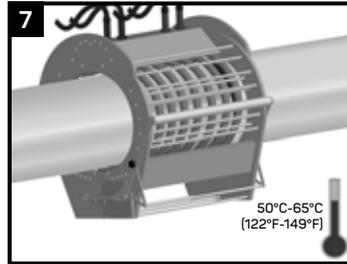
Wipe clean or air blast the steel and pipe coating to remove foreign contaminants.

Positional Markings



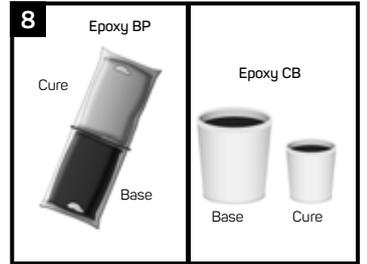
Measure and mark the width of the GTS-PP sleeve across the joint. Also, adjust the induction coil's heating area to the width of the GTS-PP sleeve. The induction coil heating width shall be approximately 25 to 75 mm wider than the supplied GTS-PP sleeve width.

Pre-Warm



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

Liquid Epoxy



Follow the preparation, mixing and applications instructions provided with the supplied Canusa Liquid Epoxy Pack. For bulk quantities, mix the epoxy cure with epoxy base (see Liquid Epoxy Product data sheet for mixing ratio). Stir for a minimum of 1 minute to assure uniform mixture.

Liquid Epoxy Application



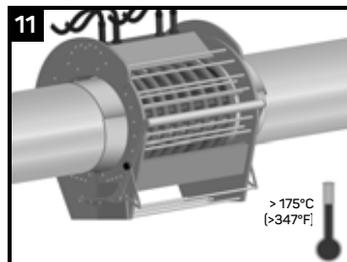
Apply mixed epoxy to a minimum uniform thickness of 6 mils (150 microns) on all exposed bare metal plus FBE toe only, using the applicator pads as supplied or an approved tool.

Heat Shield Application



Heat shields are to be wrapped tightly around the overlap edges to prevent the mainline coating from potentially lifting during pre-heating. Ensure that the heat shields are not in contact with the epoxy coated cutback area.

Epoxy Curing and Pre-Heat

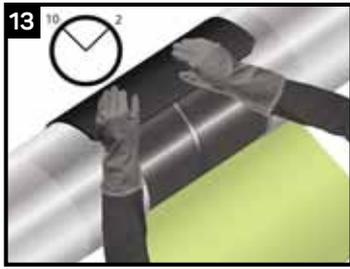


Carefully, move the induction coil into place and pre-heat the epoxy coated cutback to a minimum of 175°C. Preheat temperature and profile is dependent on project specific conditions, and must be determined prior to the start of project.

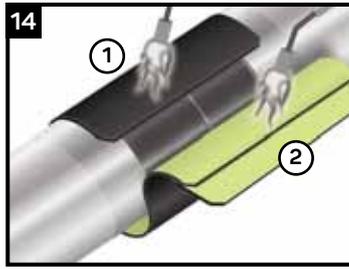
Sleeve Installation



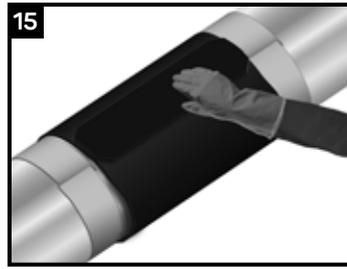
Use moderate flame intensity for sleeve shrinking. Remove protective heat shields prior to next step.



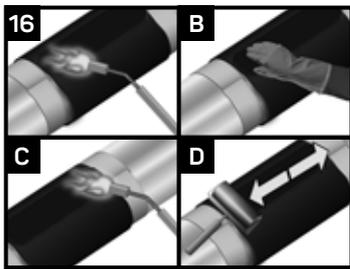
Place the underlap of the sleeve onto the joint, centering the sleeve such that the sleeve overlap is positioned at either the 10 or 2 o'clock position. Press the underlap firmly into place. **For J-Lay installation, use Canusa sleeve stabilization bracket to maintain sleeve in the vertical position.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



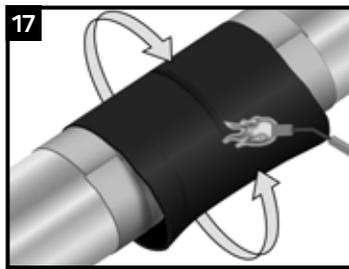
Wrap the sleeve loosely around the pipe, ensuring the appropriate overlap. Ensure that the overlap of the sleeve is a nominal width of 75mm (minimum acceptable width is 50mm). Before finishing wrapping the sleeve: (1) heat the backing side of the underlap until the backing starts to recover (2) heat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



Press the closure and overlap firmly into place. It is strongly recommended that protective heat shields are wrapped around the pipe beside the ends of the sleeve to prevent waxing of the mainline coating.

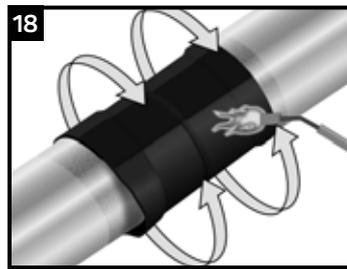


Gently heat the closure and pat it down with a gloved hand. Repeating this procedure, move from one side to the other. Smooth any wrinkles by gently working them outward from the centre of the closure with a roller.

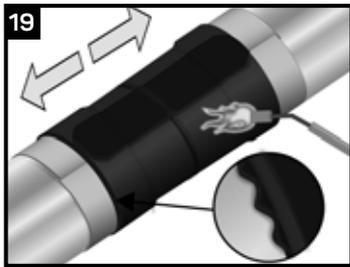


Using the torch, begin heating at the centre of the sleeve and heat circumferentially around the pipe. If the backing becomes shiny or gives off smoke, move the torch away from that area. **For J-Lay installation, when the centre portion of the sleeve is shrunk tightly to the pipe, remove the sleeve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

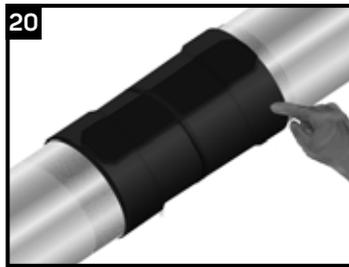
Sleeve Installation



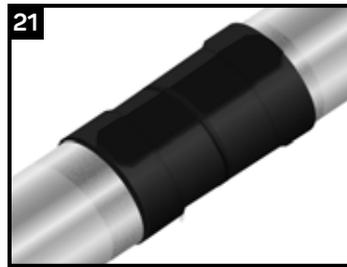
Continue heating from the centre toward one end of the sleeve until backing is complete. In a similar manner, heat and shrink the remaining side.



Initial shrinking has been completed when the sleeve fully conforms to the entire pipe profile. Adhesive should begin to ooze at the sleeve edges all around the circumference.



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.



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).

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 prolonged storage of GTS-PP sleeves at temperatures above 50°C (122°F) or below -20°C (-4°F). Avoid prolonged storage of P Epoxy at temperatures above 30°C (86°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.

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**Quality Management system
registered to ISO 9001**

Canusa warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the installation guide when used in compliance with Canusa's written instructions. Since many installation factors are beyond our control, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection therewith. Canusa's liability is stated in the standard terms and conditions of sale. Canusa makes no other warranty either expressed or implied. All information contained in this installation guide is to be used as a guide and is subject to change without notice. This installation guide supersedes all previous installation guides on this product. E&OE

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