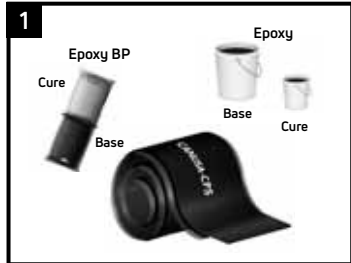


GTS-80-ISO

Global Transmission Sleeve

Product Description



GTS-80-ISO Global Transmission Sleeves are shipped pre-cut with a pre-attached or separate closure. Bulk quantities are also available. When supplied in bulk refer to GTS-80-ISO Sleeve Cutting Guidelines for recommended closure dimension, sleeve cut lengths and corner cuts (15 mm x 50 mm - 0.6" x 2"). The complete joint system also uses a liquid epoxy.

Equipment List



Propane tank, hose, torch & regulator; Appropriate tools for surface abrasion; Epoxy application accessories & wet film thickness gauge; Knife, roller, rags & Canusa approved solvent cleanser; Digital thermometer with suitable probe; Standard safety equipment: gloves, goggles, hard hat, etc.

Flame Intensity & Torch Size



Surface Preparation



Ensure that the mainline coating edges are beveled to 30°. If there is the presence of oil, grease, or other surface contaminants; clean the exposed steel and adjacent pipe coating with a solvent cleanser.

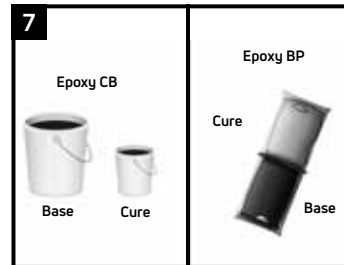


Warm the joint area to 40-50°C (100-120°F) before grit blasting. Thoroughly clean the weld area with a grit blaster to "near white metal" SIS Sa 2½ or equivalent. Abrade or sweep blast the mainline coating adjacent to the weld area to a distance 50 mm (2") beyond the sleeve width.



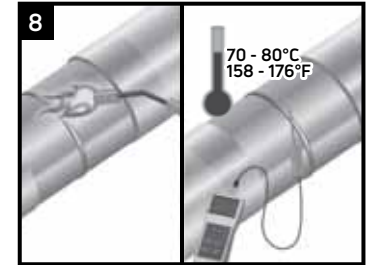
Using a dry, grease- and lint-free cloth, wipe clean or air blast the steel and coated areas to remove foreign materials.

Epoxy Primer



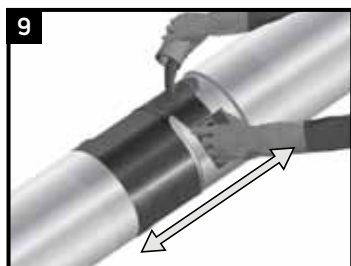
Follow the Preparation, Mixing and Application instructions provided with the supplied Canusa Epoxy Type S-80. For bulk quantities: mix the primer cure with the primer base (4 parts base to 1 part cure by volume). Stir for a minimum of 1 minute to assure uniform mixture.

Pre-Heat



Preheat the steel surface and abraded mainline coating to 70 – 80°C (158 – 176°F) with the appropriate propane torch or induction heating. When pre-heating using induction coil, flame brush of parent coating is necessary. In bad weather conditions proper shielding should be used around cutback (i.e. tent to shield from wind and/or rain).

Epoxy Primer Application



Apply mixed Epoxy to a minimum uniform thickness of 8 mils (200 microns) on all exposed bare metal and adjacent factory coating plus 25 mm on each side of the GTS-80-ISO sleeve using the applicator pads as supplied or an approved tool. The total applied epoxy width should be 50mm larger than the GTS-80-ISO supplied width. For ease of application small markings for applied epoxy width can be placed with white pencil prior to starting pre-heating (between step 6 and 7).

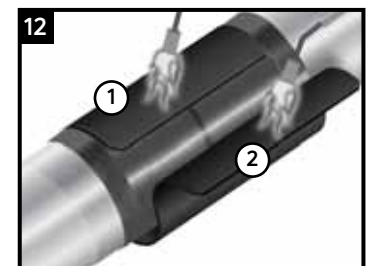
Sleeve Installation



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



While applied epoxy primer remains wet, center the sleeve over the joint so that the sleeve overlaps between the 10 and 2 o'clock positions. Press the underlap firmly into place.

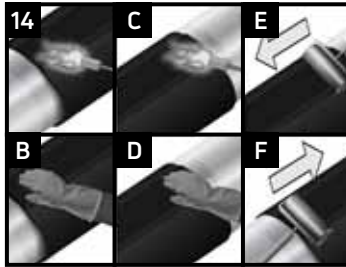


Wrap the sleeve loosely around the pipe, ensuring the appropriate overlap. Gently heat the backing of the underlap and the adhesive side of the overlap.

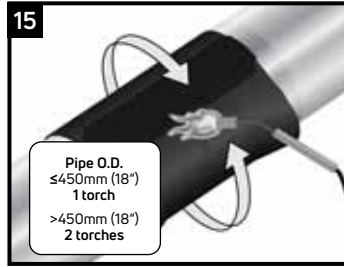
Sleeve Installation Cont'd



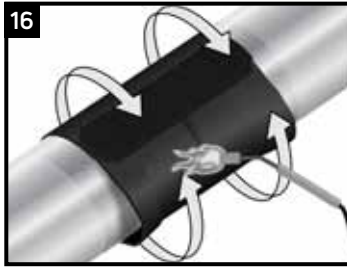
Press the closure firmly into place.



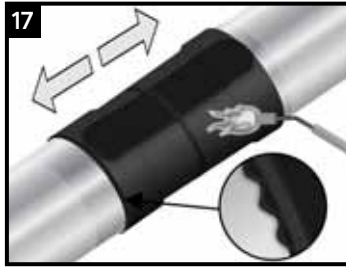
Gently heat the closure and pat it down with a gloved hand. Repeating this procedure, move from one side to the other. Smooth any wrinkles by gently working them outward from the centre of the closure with a roller.



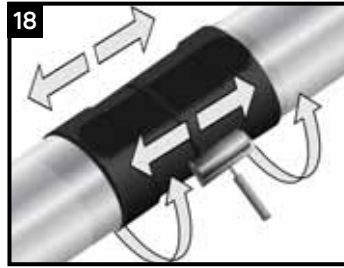
Using the appropriate sized torch, begin at the centre of the sleeve and heat circumferentially around the pipe. Use broad strokes. If utilizing two torches, operators should work on opposite sides of pipe.



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 siliconized roller to gently roll the sleeve surface and push any trapped air up and out of the sleeve, as shown above. Continue the procedure by also firmly rolling the closure with long horizontal strokes from the weld outwards.

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.

Epoxy Usage

Pipe Diameter		Quantity Required	
mm	in	Base (ml)	Cure (ml)
115	4½	38.9	9.7
170	6.6	57.3	14.3
230	8.6	74.5	18.6
280	10¾	92.9	23.2
315	12¾	110.2	27.5
355	14	121.0	30.2
400	16	138.3	34.6
450	18	155.6	38.9
500	20	172.8	43.2
610	24	207.4	51.9
660	26	224.7	56.2
760	30	259.3	64.8
915	36	311.1	77.8
1060	42	363.0	90.7
1220	48	414.8	103.7
1420	56	483.9	121.0
1520	60	518.5	129.6

300 mm / 12 in. Welded Cutback

Total width applied 500 mm: epoxy applied on factory coating overlap (50 mm + 25 mm on each side).

0.20 mm / 0.008 in. epoxy thickness on Steel

0.15 mm / 0.006 in. epoxy thickness on MLC

50% wastage factor

Liquid Epoxy Type S-80 required for installation of GTS-80-ISO supplied in 450 mm width.

Backfilling Guidelines

After shrinking is complete, allow the sleeve to cool for 2 hours prior to lowering and backfilling. For offshore applications, allow the sleeve to cool to less than 60°C prior to laying, sleeve can be water quenched. If the field joint is to be infilled, then water quenching is unnecessary. For onshore application use selected backfill material, (no sharp stones or large particles) to prevent damage to the sleeve, otherwise an extruded polyethylene mesh or other suitable shield should be used.

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. For the GTS-80-ISO Heat Shrink Sleeve, avoid prolonged storage at temperatures above 35°C (95°F) or below -20°C (-4°F). For the Epoxy, avoid prolonged storage at temperatures above 40°C (104°F) or below 5°C (41°F). Product installation should be done in accordance with local health and safety regulations. Additional information regarding product storage, can be found in the current version of Canusa's Technical Bulletin - Shipping, Handling, Storage & Shelf Life.

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

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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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