CANUSA-CPS
Corrosion Protection & Sealing

ScarGuard® E

(Formerly as Thermo-Wrap 24HDD)

Product Description

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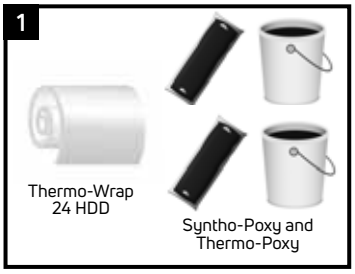

ScarGuard® E is composed of Thermo-Poxy, Thermo-Wrap 24 HDD and optionally Syntho-Poxy.

Equipment List

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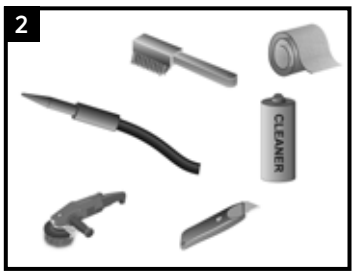

Appropriate tools including the following: heavy duty scissors, cutter/blade; cordless drill and paint impeller; mixing and measuring buckets; dry cloth; acetone or other suitable solvents; compression film; mixing tray; resinator and accessories; squeegee or paint knife; WFT guage; DFT tester, elcometer; Holiday tester; durometer; meter; blasting maching and ancillaries; scraper.

If Syntho-Poxy is Not Used

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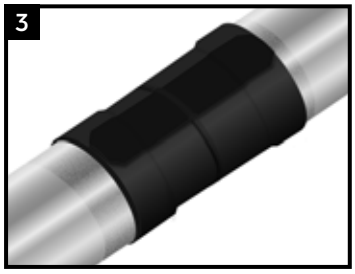

The field joint coating should be installed per the manufacturers recommended guidelines. Proceed to step number 10.

Note

4

Deliver ScarGuard® E to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, batch or lot number, and date of manufacture. Protect individual components to prevent adherence to other components, packing material, and containers. Store materials in accordance with manufacturer's instructions.

Keep containers sealed in original packaging and avoid exposure to direct sunlight, rain, snow, dirt, and dust until ready for use. Do not store at temperatures above 35°C. Use AC storage and ice cooling containers for resin pails in hot seasons. Protect materials during handling and installation to prevent damage or contamination. Dispose of waste material in accordance with local requirements.

Mainline Coating (If Syntho-Poxy is Used)

5

Lightly abrade the mainline coating by sweep blasting (preferred) to create a mechanical key without damaging the coating. SSPC-SP16 can be followed for this process.

Joint Surface Preparation (If Syntho-Poxy is Used)

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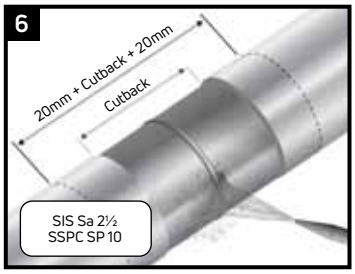

On joint weld areas, use Grit Blasting to reach a surface profile of SA2.5, SSPC-SP10, and remove excess rust, dirt or loose scale.

Surface Preparation (If Syntho-Poxy is Used)

7

Acetone or other suitable solvent shall be used to wipe out the mainline coating and the blasted bare steel just before applying Syntho-Poxy. In case of heavy winds carrying dust and sand, the pipe shall be tented at the working area. Mobile tent is possible. The quality of the FBE coating or the mainline coating shall be checked before commencing composite wrap application.

Application of Syntho-Poxy HC

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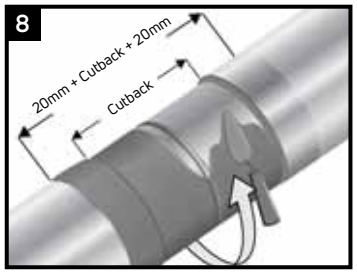
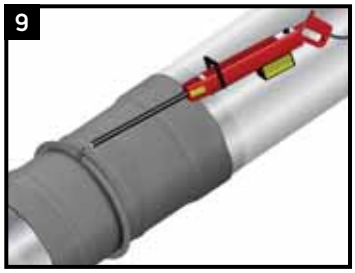


Any voids, defects, cavities, irregularities, and Sharp corners shall be rounded or ground smoothly or filled with a skim coat of mixed Syntho-Poxy HC. The 2 components shall be mixed together manually by the paint knife or spatula in small portions but as per the labeled ratio until a uniform color is achieved. Sharp edges, seam welds and joint welds shall be skimmed with this material as well to reduce any stresses resulted from the difference in thickness while thrust boring. Syntho-Poxy HC shall be applied in skim coat of minimum **500 microns** on the girth weld bare area as a corrosion protection layer with an overlap of minimum 20 mm on chamfered FBE. Any pin holes or sharp corners in the skim coat shall be readily fixed by slight touch ups with mixed materials using the same procedure. Syntho-Poxy HC should be left to cure for 30 minutes at 40°C before any testing is conducted or a subsequent layer is installed over it. Should Syntho-Poxy layer be left open for more than 6 hours after installation, it shall be abraded with an abrasive paper and wiped out with solvent for cleaning and reactivation purposes, in preparation for the application of next layer.

Holiday Testing on Joint (After Application of Syntho-Poxy)

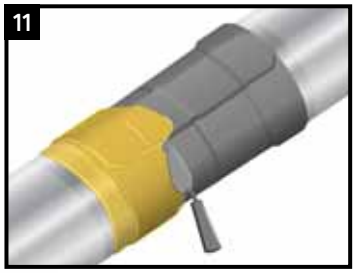


Joints covered with Syntho Poxy HC can be tested for pin holes and defects by the holiday method as per ASTM G62:

- Make sure that the Syntho-Poxy HC application is complete.
- Testing shall be conducted at least 30 minutes at 40°C after application and curing.
- Set up the voltage to a value of 2 kV.
- Any defect found throughout this test can be repaired using the outlined procedure in box #8.

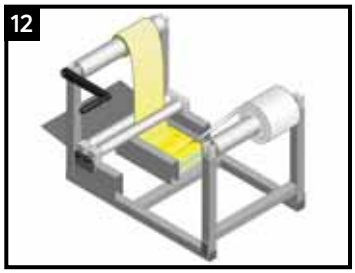
Mix full part A and B if provided as a kit or in the proper labelled ratio, in a pot with the use of blender for 5 min or until a uniform colour and consistency is obtained.

Priming with Thermo-Poxy



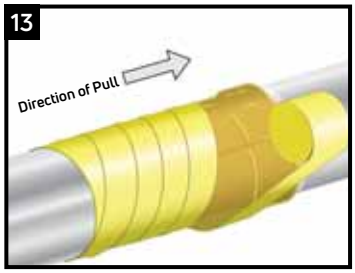
Apply Thermo-Poxy around the entire circumference of the pipe at a thickness of 100 microns. The epoxy will seal the surface of the treated pipe area and provide a great bonding to the composite system on the substrate.

Resinator Machine



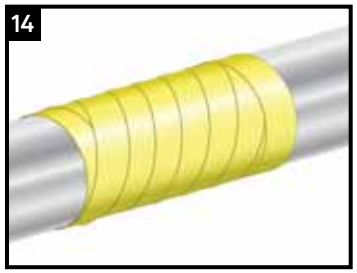
Pour Thermo-Poxy into the tray. Place the Thermo-Wrap 24 HDD roll on the input end of the Resinator machine and connect it through the resin box to the other end. Place the Thermo-Wrap 24 HDD roll on the input end of the Resinator machine and connect it through the resin box to the other end. Start rolling the handle of the Resinator to impregnate the roll.

Wrapping of Thermo-Wrap



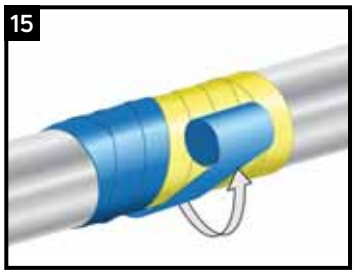
Application shall proceed while epoxy primer is wet/tacky. 2 layers of Thermo-Wrap 24 HDD is required and shall be applied in one run clockwise direction from right to left (R-T-L) or left to right (L-T-R) in a spiral manner around the pipe using a 50 % horizontal overlap. At the end of the first roll, attach the new roll lead at 200mm over the end roll and continue wrapping in the same manner.

Wrapping of Thermo-Wrap



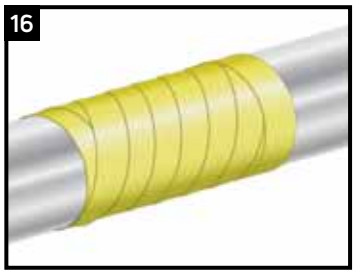
End wrap shall be vertical over itself (100%) unless further wrapping will proceed the next day or on joints; in this event the end wrap should remain in the wrapping direction.

Compression



The whole system shall be compacted by the use of a PE compression film. This is a component for installation purpose only and has no value in system performance after curing. Start wrapping the PE film up right from start point and before the composite is cured/ while still wet extending min 4" over the coating. Start with double circumferential wraps then incline and proceed spirally until the end of the line. Wrapping shall start and proceed with high tension and at 50% overlap. Roll end overlap shall be min **500mm**. For coating long pipes spans, compression shall start after 1 to 2 Lm of composite wrapping is done and proceed with every 1 to 2 Lm of wrapping advancement, depending on pipe size and temperature. After curing, the PE film can be removed.

Curing and Hardness Test



The Thermo-Wrap outer layer should meet the minimum average **Shore D hardness requirement of 74** as per ASTM D2240 to be considered ready for regular use. Curing time is 12 hours at 40°C. Testing should be performed by placing the pin on the highest point of the composite system to insure a proper reading is taken. The test point shall be placed directly on a fiber and not the valley where the fibers cross as this could result in a false low reading. A minimum of 10 readings for each 2 Lm shall be performed to get the average value. The readings shall be taken at random points along the composite system to represent all areas (top of pipe, sides of pipe, bottom of pipe, etc.).

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 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 at info@canuscps.com.

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Quality Management system registered to ISO 9001

Part No. 99060-228

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