CANUSA-CPS
Corrosion Protection & Sealing

ScarGuard®

Composite Mechanical Protection for Directionally Drilled Pipelines for Field Joints

Product Description

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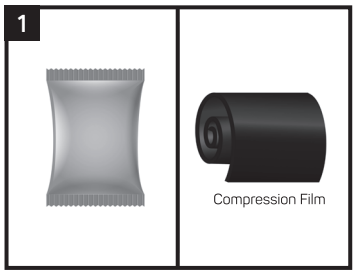

ScarGuard® (SCG) is supplied in a heat sealed foil pouch. Compression Film is supplied separately.

Equipment List

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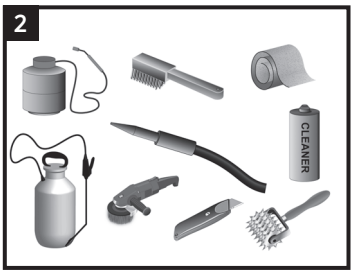

Appropriate tools for surface abrasion and preparation (wire brush/power wire brush or grit blaster, abrasive paper (60-80 grit), knife, lint free rags, approved solvent and high volume water sprayer, perforation tool, standard safety equipment: latex and leather gloves, safety glasses, hard hat, etc.

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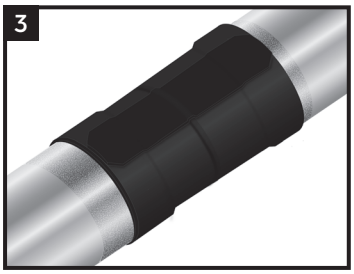

The field joint coating (FJC) should be installed per the manufacturers recommended guidelines.

Preparation

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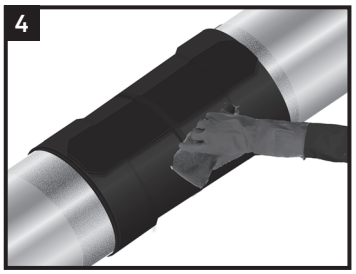

Perform an SSPC SP1 solvent cleaning. Remove all visible signs of oil, grease, dust, dirt or other surface contaminants; clean the FJC and the adjacent pipe coating with a solvent cleanser. To determine the width of the area to be cleaned refer to step 5 or step 6.

For Epoxy Field Joint Coatings:

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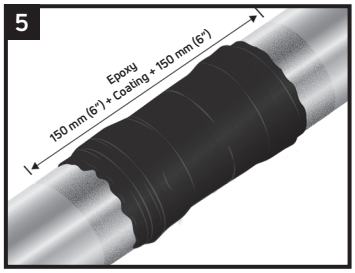

1. Sweep blast a minimum of 150mm (6") past the FJC edges on both sides. Sweep blasting should result in a 25 to 75 microns (1 to 3 mil) profile. Be careful not to cause a holiday when sweep blasting. With approval from the coating manufacturer, sweep blast the entire epoxy girth weld coating resulting in a 25 to 75 microns (1 to 3 mil) profile.
2. If sweep blasting isn't an option, thoroughly abrade the areas mentioned in step 1 above with 60 to 80 grade grit paper.
3. Blow down, wipe down or brush off the entire prepared area once prep is complete with noncontaminated equipment to remove dust.
4. Perform a Holiday Test to ensure that there are no holidays. If any are present, repair the girth weld coating in accordance with the manufacturer's recommendations and repeat steps 1-4.

For Heat Shrink Sleeves, Tapes, Etc:

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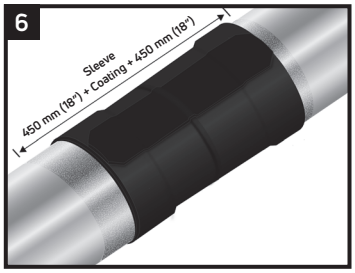

Do not sweep blast these types of field joint coatings.

1. If the mainline coating is an epoxy (FBE/ARO), sweep blast a minimum of 450mm (18") wide area past FJC edges on both sides. Sweep blasting should result in a 25 to 75 micron (1 to 3 mil) profile. Be careful not to cause a holiday when sweep blasting. If sweep blasting isn't an option, thoroughly abrade the areas mentioned above with 60-80 grade grit paper.
2. If the mainline coating is a polyethylene or polypropylene do not sweep blast, thoroughly abrade the areas mentioned in step 1 above with 60-80 grade grit paper.
3. Blow down or wipe down or brush off the entire prepared area once prep is complete with noncontaminated equipment to remove the dust.
4. Perform a Holiday Test to ensure that there are no holidays. If any are present, repair the girth weld coating in accordance with the manufacturer's recommendations. and repeat steps 1-4.

Outer Wrap Application ScarGuard®

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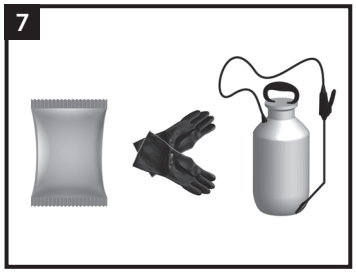

Water is needed to activate ScarGuard®. Open the foil pouch, remove the roll. Once opened, the product cannot be repackaged. ScarGuard® is activated using a high volume water sprayer to soak each layer as it is wrapped. Impermeable gloves (ie.Latex / rubber) are required during the ScarGuard® installation.

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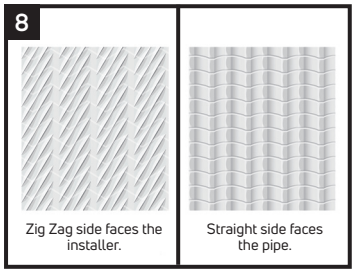
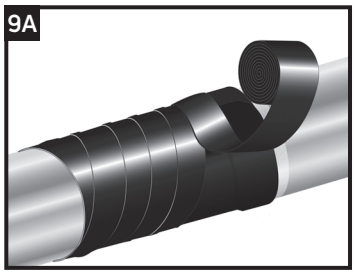


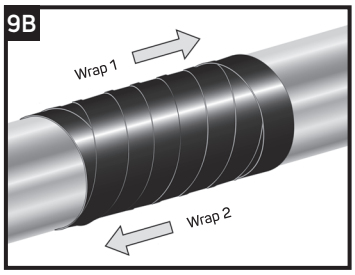
SCG must be wrapped onto the field joint in the correct orientation as shown above. The "Zig Zag" side of the SCG is the side that must face outward towards the installer. (Zig Zag Out). The straight side of the SCG is the side that must contact the pipe's surface.

2 Layer System

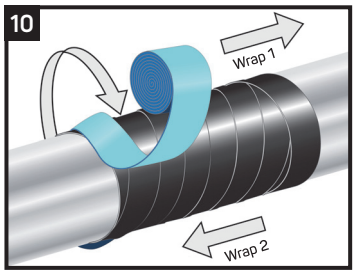


After preparation has been completed, soak the entire area to be wrapped with water. Open the foil pouch and remove the roll. Begin the application a minimum distance of 150 mm (6") past the corrosion coating edge. Installation can start on the leading or trailing edge. Apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with a 50% overlap towards the other edge. Apply tension during application by pulling firmly on the roll as it is applied. Squeeze and mold firmly in the direction of the wrap until tight. THOROUGHLY SOAK each layer (both sides, top, and bottom) of the SCG as it is being applied, not just the outer layer. Continue with the 50% overlap until the SCG extends to the other edge of abraded area created in step 5. (a minimum distance of 150 mm (6") beyond the corrosion coating) SCG is applied in a minimum single pass with 50% overlap to achieve a 2-layer system. End with a minimum of one complete circumferential wrap at a 90° angle.

4 Layer System

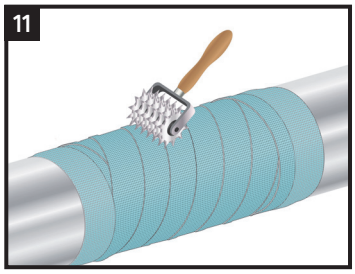


After preparation has been completed, soak the entire area to be wrapped with water. Open the foil pouch and remove the roll. Begin the application at a minimum distance of 150 mm (6") beyond the corrosion coating. Installation can start on the leading or trailing edge. Apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with a 50% overlap towards the other edge. Apply tension during application by pulling firmly on the roll as it is applied. Squeeze and mold firmly in the direction of the wrap until tight. THOROUGHLY SOAK each layer (both sides, top, and bottom) of the SCG as it is being applied, not just the outer layer. Continue with the 50% overlap until the SCG extends a minimum distance of 150 mm (6") beyond the corrosion coating on the other edge. Switch directions and continue to spiral wrap with a 50% overlap towards the edge where the installation started.



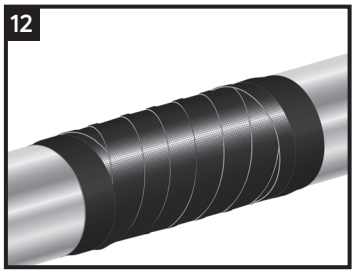
Apply the compression film **immediately** after the ScarGuard® has been installed. Apply the compression film in the same spiral direction as the SCG with a 50% overlap. Start min. 150 mm (6") beyond the outer edge of the SCG, pulling firmly during application to compress all SCG layers together, and end 150 mm (6") past the SCG on the opposite edge. The compression film must be installed with a minimum of 4 layers thick (2 passes at 50% overlap). Apply compression film with high tension.

NOTE: Compression film should be applied before excess foaming is observed and the resin has exceeded the gel time. The compression film must be applied and perforated immediately after the installation of the SCG.



Perforate the compression film using the perforation tool immediately after installation of all the layers. Use enough downward force to perforate the compression film ONLY. Leather gloves can be worn during this step. Perforation allows the CO_2 gas generated by the curing process, and excess water, to escape. Compression film should remain in place as long as possible, and should only be removed prior to installation of pulling the pipe in. The film will help protect the SCG from UV degradation should the pullback be delayed. If a UV resistant SCG is required, please contact your local Canusa representative.

Prior to Pulling



Allow SCG to reach a Shore D Hardness of 60 prior to pulling. SCG is fully cured at a Shore D Hardness of 80 at 23°C (72°F).

Shore D readings should only be taken over resin only in a flat area. Shore D readings taken over grooves, resin poor fibers or foamed resin areas may result in lower values.

Hot & Cold Weather Installations

Contact your Canusa-CPS representative for cold and hot weather application techniques. [Cold ≤ 10°C (50°F), Hot ≥ 40°C (100°F)]

Storage & Handling

For ideal shelf life, store in a cool, shaded area at ambient temperature 23°C (72°F). Do not expose to temperatures above 44°C (110°F) or below 5°C (40°F). **Do not open bag containing Scar-Guard (SGC) until you are ready to use it,** as SCG cures when exposed to atmospheric moisture/humidity.

Do not stack more than 3 cartons high. Do not remove the Scar-Guard pouches from the boxes and store separately.

Care must be taken when handling the sealed bags to prevent puncturing or scuffing. If the protective foil pouch is punctured, the composite wrap will cure within the sealed foil pouch.

Expiration dates are found on each individual bag.

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

Part No. 99060-228

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