Installation Procedure

FURS® Composites
Protect HD

The FURS Protect HD *is a specialty designed fiberglass reinforced fabric that is pre-impregnated with a water activated resin that cures to create an abrasion and impact resistant protective overcoat. The FURS Protect HD is designed to be applied over or in conjunction with the corrosion prevention coatings to add additional mechanical protection. It is applied directly out of the bag and requires no additional mixing. The products can be applied over FBE, shrink sleeves, viscous elastic wraps, wax tapes, epoxies and more.*

Materials & Tools:

- Compression Wrap
- Rubber Gloves (heavy duty)
- Surface Preparation materials:
  Wire brush/power wire brush or grit blaster, abrasive paper (40-80 grit)
- Spray Bottle w/ water
- Perforator tool
- Scissor

SURFACE PREPARATION: (Shall be carried out thoroughly)

1. All surfaces shall be cleaned of mud, mill lacquer, wax, tar, oil, grease or other foreign contaminants to Solvent Clean SSPC-SP1 requirements, using an Oil Free Solvent (Acetone, Denatured Alcohol, and Isopropyl Alcohol).
2. Surface preparations shall extend 6” past the Field Joint Coating (FJC) edges or over the entire area to be protected.
3. Sweep blasting should result in a 25 to 75 microns (1 to 3 mil) profile.
4. If a sweep blast is not an option, roughen the existing coating with to 60 to 80 grit paper to create a profile.
5. After profile is created, thoroughly clean prepared area to remove any dust or contaminates.
6. Holiday testing may be done at this time to ensure that no coating has been damaged in the preparation process. If coating damages are found, follow coating manufacturer repair guidelines.

Following completion of above surface preparation:

1. Mark area to be wrapped.
   i. When wrapping the FJC, extend 6”+ on leading edge (direction pipe is to be pulled) and 4”+ on trailing end.
2. Spray area that is to be wrapped with water.
3. Remove **FURS Protect HD** product from sealed packaging. **Product shall only be removed immediately prior to installation. Exposure to elements will start the curing process. Working time is limited once packaging is open.**

WRAPPING PROCESSES

Three Wrapping Processes are detailed below. Process selection is dependent on desired level of protection and individual project variables.

Wrapping Process 1: 2-Layer System *(standard level of protection)*
50% overlap starting on the trailing end and wrapping in direction the pipe is to be pulled.

Wrapping Process 2: 4-Layer System
75% overlap starting on the trailing end and wrapping in direction the pipe is to be pulled.

Wrapping Process 3: 4-Layer System
50% overlap starting on the leading edge, wrapping towards the trailing edge then back to leading edge in the direction the pipe is to be pulled.

Wrapping Process 1:

- Start on the trailing edge, 4" past FJC, and apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with 50% overlap towards the leading edge. Apply tension during the entirety of the application.
- Continue spraying the wrap with water thoroughly wetting product during application.
- Complete wrapping 6"+ past end of FJC on leading edge. Continue in this direction until all remaining **roll** material is consumed, end with a straight circumferential wrap.

Wrapping Process 2:

- Start on the trailing edge, 4" past FJC, and apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with 75% overlap towards the leading edge. Apply tension during the entirety of the application.
- Continue spraying the wrap with water thoroughly wetting product during application.
- Complete wrapping 6"+ past end of FJC on leading edge. Continue in this direction until all remaining **roll** material is consumed, end with a straight circumferential wrap.

Wrapping Process 3:

- Start on the leading edge, 4" past FJC, and apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with 50% overlap towards the trailing edge. Apply tension during the entirety of the application.
- Continue spraying the wrap with water thoroughly wetting product during application.
- Wrap to 4"+ past end of FJC on trailing edge, then begin wrapping 50% towards leading edge.
- Complete wrapping 6"+ past end of FJC on leading edge. Continue in this direction until all remaining **roll** material is consumed, end with a straight circumferential wrap.

Once wrapping is completed, IMMEDIATELY wrap compression film over FURS Protect HD

- *Wrap compression film in the same direction as spiral wrapping of FURS Protect HD was conducted.*
- *Maintain tension on the compression film (150% elongation ideal) starting and finishing a minimum of 6" past the end of the FURS Protect HD system, on both leading and trailing edge.*
- *Compression film to be a thickness of 4-layers via (2) passes at 50% overlap or (1) pass at 75% overlap.*
- *Using the perforator tool, perforate compression film to allow for off-gassing of resin. Exercise caution to not penetrate the FURS Protect HD and/or the underlying corrosion prevention coating.*
- *Compression film may be removed after functional cure of FURS Protect HD has been achieved.*

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