Installation Procedure

FURS® Composites
Protect 1100

The **FURS Protect 1100** Series Products are specialty designed **woven** fiberglass reinforced fabrics that are pre-impregnated with a Fast Cure water activated resin system. The Products are engineered for mechanical protection against abrasion, gouging, impact and outside forces. 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)
- Spray Bottle w/ water
- Perforator tool
- Scissors
- Surface Preparation materials:
  Wire brush/power wire brush or grit blaster, abrasive paper (40-80 grit)

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, when applicable, 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 me 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 for protection during HDD's, extend wrapping 6"+ on leading edge (direction pipe is to be pulled) and 4"+ on trailing end.
2. Spray area with water that is to be wrapped with **FURS Protect**
3. Remove **FURS Protect** product from sealed packaging. (Product shall only be removed immediately prior to installation. Please note: Exposure to elements will start the curing process. Working time is limited once packaging is open)

Three Application processes to choose from, (depending on level of protection desired)

Wrapping Process 1: (Standard Protection)
50% overlap starting on the trailing end and wrapping in direction of pipe to be pulled.

Wrapping Process 2: (for HDD Field Joint Protection)
75% overlap (to create 4 layers of protection) starting on the trailing end and wrapping in direction of pipe to be pulled.

Wrapping Process 3: (for HDD Field Joint Protection)
50% overlap starting on leading edge and wrapping down and then back. Wrapping both directions creating a 4 layer system.

Wrapping Process 1:

- ⇒ (Field Joints- start on the trailing edge, 4" past FJC.) Apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with a 50% overlap. Apply tension during application.
- ⇒ Continue spraying wrap with water thoroughly wetting product during application.
- ⇒ Complete wrapping with a straight circumference wrap. (Field Joints- wrap 6"+ past end of FJC on leading edge.)

Wrapping Process 2: (for HDD Field Joint Protection)

- ⇒ Start on the trailing edge and apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with a **75% overlap** towards the other edge. Apply tension during application.
- ⇒ Continue spraying wrap with water thoroughly wetting product during application.
- ⇒ Complete wrapping 6"+ past end of FJC on leading edge. End with straight circumference wrap.

Wrapping Process 3: (for HDD Field Joint Protection)

- ⇒ Start on the leading edge and apply the first wrap circumferentially around the pipe at a 90° angle, then begin spiral wrapping with a **50% overlap** towards the other edge. Once reached end of wrapping area, wrap back towards starting point continuing with 50% overlap. Apply tension during application.
- ⇒ Continue spraying wrap with water thoroughly wetting product during application.
- ⇒ Complete wrapping 6"+ past end of FJC on leading edge. End with straight circumference wrap.

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

- ⇒ Wrap compression material in the same direction as spiral wrapping of the FURS Protect was installed.
- ⇒ Wrap film with TENSION starting and finishing a min of 6" past the end of the FURS Protect.
- ⇒ Compression film to be a thickness of 4 layers. (2 passes at 50% overlap or 1 pass at 75% overlap)
- ⇒ Perforate compression film to allow for off-gassing. Holes shall be poked in compression film every few inches and shall not extend past the film into underlying coatings.
- ⇒ Compression film may be removed after curing of FURS Composite has occurred.

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FURS Composites is dedicated to manufacturing the highest quality products for the repair and protection of energy & industrial infrastructures. We are committed to ensuring that our customers receive products that meet or exceed their quality requirements.