

PRODUCT DESCRIPTION

The **tecnosleeve** coating system is specially designed for the protection of pipelines, bends, elbows and, in general, buried and / or submerged accessories. This system consists of a first **tecnosleeve-epoxy** barrier and a second layer of **tecnosleeve** (heat-shrinkable sleeve) with high adhesion and impermeability that makes it the ideal system for the corrosion protection of pipelines and welded joints with excellent adhesion in transition zones with 3-layer PE, 3-layer PP, FBE and in general most corrosion protection coatings for buried pipelines.

Corrosion protection is provided by the first layer of **tecnosleeve-epoxy** which is a 100% solids per volume, fast drying coating with high impermeability and temperature resistance, and the **tecnosleeve** which is a heat-shrinkable sleeve that when heated, it shrinks and allows the adhesive to flow over the metal or over the existing coating.

MAIN FEATURES

- Long-term corrosion protection.
- Environmentally friendly and non-toxic.
- High impermeability and completely hydrophobic.
- Excellent resistance to water, acids, salts and chemicals.
- It does not require curing time; the service is immediate.
- Easy application and high performance on 3-layer PE or PP coatings.
- Excellent resistance to shear forces that occur in soils.
- There is no need to wait for specific environmental conditions for its application.
- Excellent resistance to cathodic disbondment and compatibility with cathodic protection.

SURFACE PREPARATION

Before preparing the surface, a pre-cleaning must be carried out according to SSPC SP1 Cleaning with solvent to remove grease and / or existing dirt.



Figure 1: SSPC SP1 Solvent cleaning

The surface must be prepared with NACE 2 / SSPC-SP 10 Near-white metal blast cleaning, removing all calamine, rust, paint and foreign materials. Additionally, lightly wear the existing coating to create an anchoring profile, passing the abrasive blasting jet up to 5 cm beyond the edge of the bare metal.



Figure 2: NACE 2/ SSPC-SP10 Near-white metal blast cleaning

Another alternative is to perform bare metal power tool cleaning following the requirements of SSPC-SP11, with a minimum 2 mil of surface profile according to the Testex Press-O-Film tape method.

NOTE:

In this case, in which no abrasive blasting is used, it is recommended to save the core of the surface profile obtained according to the Testex Press-O-Film tape method.

INSTALLATION CONDITIONS

There are no specific conditions of substrate humidity or ambient temperature for the application of the **tecnosleeve-epoxy** or the **tecnosleeve**. The only condition for the application of the **tecnosleeve-epoxy** is to preheat the substrate to a temperature of $75 \pm 5^\circ\text{C}$.

INSTALLATION

Surface preheating

Using a propane torch, preheat the joint area and 10 cm on each side of the pipe lining to a temperature of $75 \pm 5^\circ\text{C}$, using a thermometer to ensure that the correct temperature is achieved.



Figure 3: Preheating of the surface

tecnosleeve-epoxy application:

The **tecnosleeve-epoxy** comes in different presentations with the appropriate mixing ratio; if you are going to prepare less quantity, always keep the mixing ratio of the supplied kit 5 : 1 (5 parts of A for each part of B). The rest of the unused product can be stored covered to avoid contamination for later application.

Properly mix the two components of the **tecnosleeve-epoxy** with a mixing ratio of 5: 1. Apply the resin with uniform thickness to a minimum of 4 mils to coat the metal substrate and 1 cm over the adjacent coating. You can use a brush, spatula or sponge.



Figures 4, 5 and 6: tecnosleeve-epoxy application

tecnosleeve application:

Trim the corners of the sleeve. Using the torch warmly heat the adhesive (bottom) side of the **tecnosleeve**, 15 cm from the edge to the center.



Figure 7: Edge heating

Position and center the **tecnosleeve** on the joint at the correct angle and position. Press the top overlap so that the **tecnosleeve** adheres to the joint.



Figure 8: Positioning the sleeve

Wind the **tecnosleeve** around the pipe leaving some clearance to the pipe. Ensure a minimum overlap of 10 cm on both sides of the joint. Heat the top face of the inner lap and the adhesive side of the top lap. Press to seal the overlap, and then remove the remaining plastic layer.



Figure 9: Closing the sleeve

Installation of the sealing tape:

Heat the adhesive side of the sealing tape, then center the tape over the overlap region.



Figure 10: Installation of sealing tape

tecnosleeve shrinking:

Shrink the product using a yellow medium flame and maintaining a constant radial movement around the mid region of the tecnosleeve. For large diameter pipelines, better execution times are obtained with two applicators that support each other with the tape overlapping, placing them on each side of the pipeline.

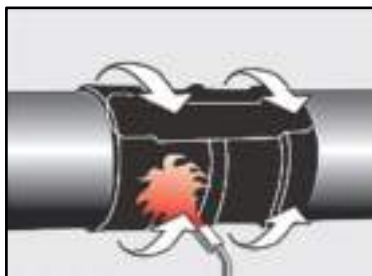


Figure 11: Shrinking the tecnosleeve

Continuously heat axially from the center to the ends of the joint until the contraction is complete, repeat the step in the same way on the rest of the circumference of the joint.

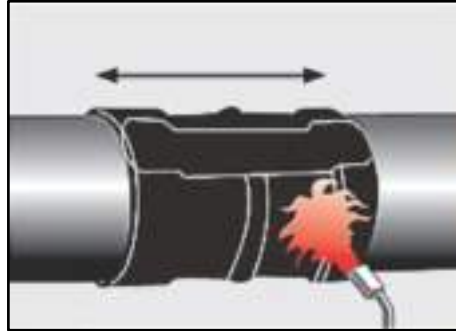


Figure 12: Shrinkage of the blanket

Remove any bubbles created in the shrinking process using a silicone roller while the tecnosleeve is still warm and smooth. If necessary, reheat the area and press any trapped air until it has been removed.

After the contraction has been completed, the adhesive should drain on both ends around the entire circumference.



Figure 13: Sealing the sleeve

QUALITY CONTROL

- According to NACE SP0274-2011, the test voltage for a thickness (t) follows the following formula:

$$\text{Test voltage (kV): } 7,900 * \sqrt{t \text{ (mm)}}$$

In accordance with the above, the test voltage of the 2.5 mm tecnosleeve is 7.9 kV.

- Visual inspection to locate air bags or insufficient overlap.
- Verify that the adhesive protrudes from all sides of the sleeve, if it is not yet evident, additional localized heat can be applied and the roller can be used to force the part of the adhesive out.

SAFETY PRECAUTIONS



The **tecnosleeve-epoxy** is 100% solids by volume with a minimum amount of solvent, however, the use of organic vapor filters is recommended for its application. Use personal protective equipment for any work activity with our products.

TECHNICAL SERVICE

For any technical questions regarding the use of our products, let us support you by contacting our commercial technical department. Contact us, we have NACE certified professionals in industrial coatings ready to support you.

PRESENTATION OF THE PRODUCT

The following table shows the presentation of the products for consumer's clarity.

PRODUCT	USE	PRESENTATION	PACKAGE
tecnosleeve-epoxy	Primer of the surface prepared for application of the sleeve.	Part A and part B kit, in the appropriate mixing ratio, please consult the sizes with our representative. Mixing ratio 5 : 1.	
tecnosleeve	Corrosion resistance.	Our standard thickness is 2.5mm with the width and length required for any pipe diameter, please consult our representative.	

WARRANTY AND LIMITATION OF LIABILITY

TECNOLOGIA TOTAL will not be in any case responsible for damages of any nature that could be derived from an inadequate use of the product. Before using the product, the user must determine if the product is suitable for its intended use, taking all risks and liability that could be derived from its use.

If it's proved that a product is faulty due to manufacturing or its material at the time of sale, or that it does not fulfill during its warranty period the indicated properties in this technical sheet, the only responsibility of TECNOLOGIA TOTAL will consist of replacing the buyer with the quantity of product that is found to be defective. TECNOLOGIA TOTAL does not take any responsibility for any additional cost such as manufacturing cost, withdrawal or re-application of the products. If TECNOLOGIA TOTAL offers a warranty to their clients, express or implicit, or a compensation that differs from the established in this section, this stipulation cannot be altered unless a signed agreement by the parties.

