



## REHABILITATION OF DUCTS WITH COMPOSITE

### PRODUCT DESCRIPTION

High-tech composite material system specified for repair and rehabilitation of metal surfaces with external application and cold cure process.

PIPE-SHIELD is a compound indicated for repair of pipelines that have suffered damage due to loss of thickness, deformation or mechanical damage and can be done with the pipelines out of work or in operation.

The repair system meets the requirements of ASME PCC-2-2006 and ISO PDTS 24817.

### REPAIR CHARACTERISTICS OR REHABILITATION

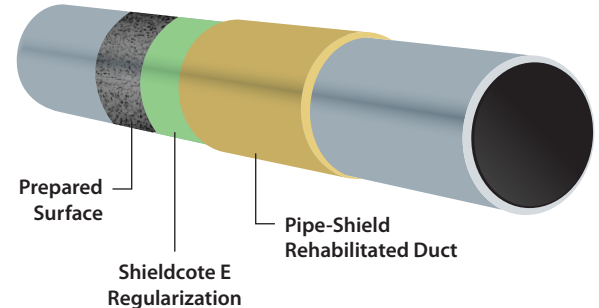
The region of the defective pipe is surrounded by composite material consisting of a polymeric matrix - epoxy vinyl ester resin or polyamine epoxy resin - with reinforcement based on fiberglass or carbon fiber forming a joint around the pipe, restoring the mechanical resistance.

The fiberglass or carbon fiber is impregnated with the resin in place, laminated in successive layers with a thickness determined through inspection, evaluation and calculation. The repair is limited to an operating temperature of 90°C or less. For temperatures up to 120°C, please consult the technical division of Wolftank Latinoamérica.

### COLD CURE PIPELINE REHABILITATION APPLICATIONS

Pipe-Shield is recommended for the rehabilitation of oil and gas pipelines, production pipes, industrial process pipes, chemical products, pipelines, sanitation pipes, ore slurry, flare lines. They are indicated for applications of Temporary and Permanent Pipeline Repairs.

- The Temporary Repair is made to reinforce the defective region, guaranteeing the operational continuity of the pipeline. Temporary Repair is applied to pipelines that have damage such as grooves, pits, mechanical damage, abrasion, loss of internal or external thickness - when greater than 70% of the nominal thickness.
- Permanent Repair is done to fully restore the mechanical resistance of the duct. Permanent Repair is applied to pipes that have areas with loss of external thickness less than 70% of the nominal thickness.



### BENEFITS OF PIPE-SHIELD

- Safe and quick to apply - cold cure application;
- Applied in pipelines out of work or in operation;
- Covers surfaces of different geometries (conformable);
- Eliminates hot work (less downtime);
- Applied to pipes of any diameter and length;
- Applied on weld beads, bends and "T's";
- Repair without pipeline replacement (extension of pipeline life).

### AVAILABLE SUPPLY

EPOXY SYSTEM PACKAGING		
PRIMER FOR STEEL		
<b>Epoprimer E</b>		
Component A	3.6 L Gallon (1.8 L)	18 L Bucket (9 L)
Component B	3.6 L Gallon (1.8 L)	18 L Can (9 L)
BASE LAYER		
<b>Shieldcote E</b>		
Component A	3.6 L Gallon (3.19 Kg)	18 L Bucket (15.48 Kg)
Component B	Can ¼ Gl (0.77 Kg)	5 L Can (4.52 Kg)
Shieldcote E Aggregate	Bag 9.0 Kg	Bag 22.50 Kg
LAMINATION RESIN		
<b>Resincoat E</b>		
Component A	3.6 L Gallon (3.22 Kg)	18 L Bucket (15.48 Kg)
Component B	Can ¼ Gl (0.82 Kg)	5 L Can (4.52 Kg)
FIBERGLASS		
<b>Reinforcement</b>		
Fiberglass fabric		Packaging or coil - 5 and 10 Kg
Fiberglass shopped strand mat.		Packaging or coil - 5 and 10 Kg
SOLVENT CLEANING		
<b>Solvent EP</b>		
Cleaning solvent		Can 5 L or 18 L



## STORAGE

Keep the products of the Pipe-Shield Coating System in the original sealed packaging, in a dry place and protected from the sun and other sources of heat. Its Shelf Life at 25°C is 12 months.

## SAFETY

### HEALTH AND SAFETY AT WORK

Avoid all contact with skin or eye. The environment during the application should be well ventilated to reduce inhalation of vapors. Workers should wear adequate breathing apparatus in confined spaces. Open flames, welding operations and any other spark inducing activity are not permitted near the work area. Smoking should not be allowed.

Some people are sensitive to contact with resins, catalysts and solvents. To avoid discomfort all workers should wear gloves and goggles at all time when there is a possibility of spillage or any other contact with these products. The use of protective creams is encouraged as added protection. Over sensitive personnel showing any sign of discomfort should be removed from the work area.

Resin spillage / drippings on the skin can be removed with soap and water. In case of contact with the eye, wash thoroughly for 15 minutes with clean water and get medical help. Medical assistance is required in case of accidental ingestion. Do not induce vomiting.

## ADDITIONAL INFORMATION

Wolftank produces and sells a large variety of products designed to protect steel or concrete substrates against corrosion. Our product line includes coatings and linings, special paints, and products used in surface treatment.

We also carry a complete line of auxiliary products like grouts, anchoring systems, carbon fibers and a complete system solution to the problem of the structural rehabilitation of steel or concrete structures.

Please call us for further information about our products, tutorial videos and technical brochures.



### PRIME OFFICE PARK

Bloco A1 • Conjunto 203  
Rua Adib Auada, 35 • Granja Vianna  
Cotia • SP • Brasil • CEP 06710-700  
Telephone: +55 (11) 4617-3393  
+55 (11) 4617-5464  
Email: wolftank-la@wolftank.com  
[www.wolftank-la.com.br](http://www.wolftank-la.com.br)

The products mentioned in this Technical Report are registered trademarks of Wolftank Latinoamérica Desenvolvimento de Projetos de Engenharia para Revestimentos de Tanques e Estruturas com Materiais Compósitos Ltda.

The custom designed and made to order products manufactured by Wolftank are guaranteed against manufacturing defects. Wolftank will provide all technical support and information to assure the correct use of their products. However, since we do not have control over the crew and the conditions under which our products are applied, we cannot assume any liability for their misuse or misapplication.