INNOVATIVE COATING SOLUTIONS THAT PLAY BY THE RULES

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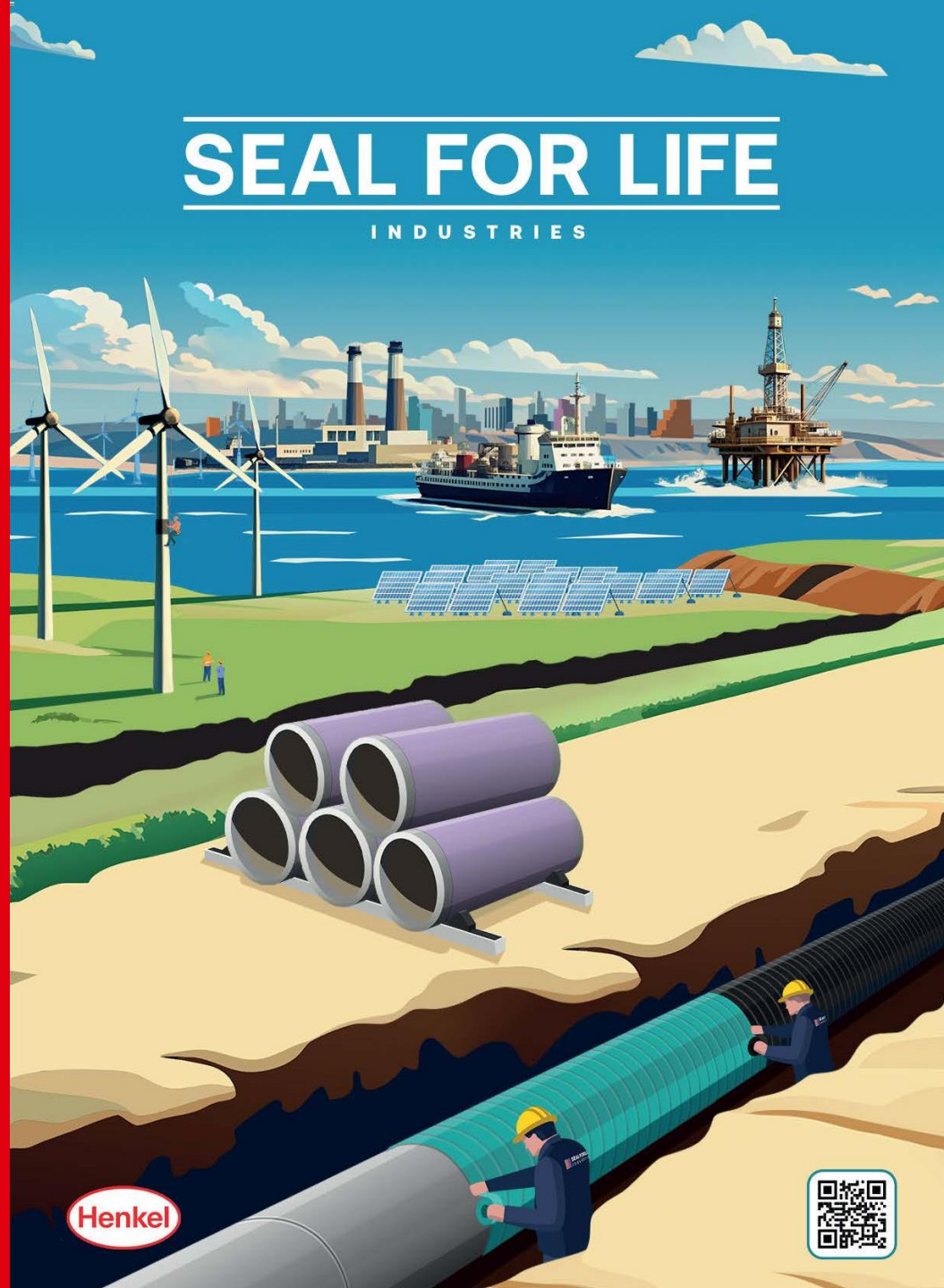
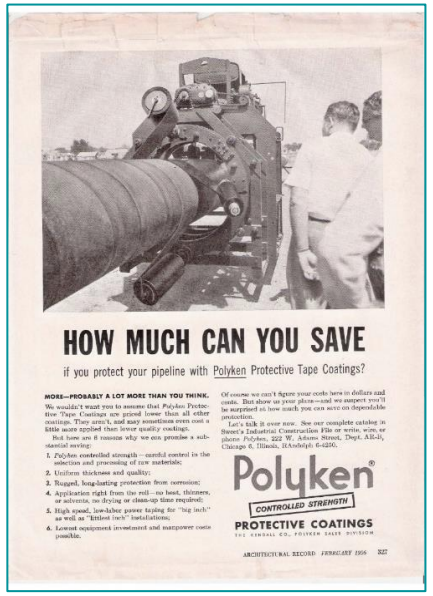
OCTOBER 2024

SEALFORLIFE Industries



Seal For Life: Over 60 Years of Innovation, Protecting the Future

1956



2020

2024

Premier Global Infrastructure Coating Solutions Provider

Engineered products for critical infrastructure assets


Field Joint Coatings


Renewable Energy Coatings


Water Pipeline Coatings


Maintenance Coatings


Preservation and Integrity Coatings


Polymeric Floor Coatings


Intumescent Coatings


Insulative and Marine Coatings

- Products that comply with stringent specifications
- Highly responsive service and support
- Global footprint to reach leading infrastructure markets
- Rich history of R&D innovation
- Culture of solution development
- Industry leading sustainable product portfolios

Best-in-class coatings solutions for diverse end markets

Energy Infrastructure

Renewable Energy

Water and Desalination

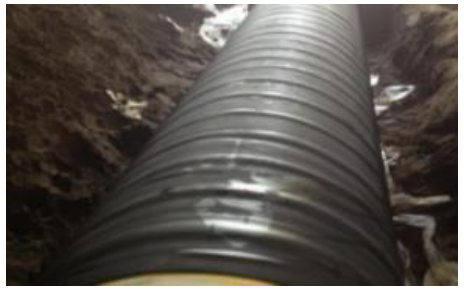
Protection and Maintenance

Safety and Integrity

Flooring & Linings

Extreme Performance Under the Most Extreme Conditions

Severe soil erosion



STOPAQ®

Used in Middle Eastern subkha soils where other coatings have failed

High temperature

Powercrete®

Coatings for high temperature pipelines with outstanding abrasion & gouge resistance

Extreme cold

STOPAQ®

Coatings designed for low temperature applications

Large diameter

LifeLast®

Coatings for water transmission pipelines

Floorings and linings

VERDIA®

High performing and durable flooring for food and beverage industry

Wet service

STOPAQ®

Designed for underwater applications and offshore construction

Offshore energy

Easy-Qote®

Protects offshore wind infrastructure

Directional drilling

Covalence®

Superior abrasion resistant coatings

Maintenance coatings

Highland International

High temperature protection with color stability

Fire protection

FlameControl
Fire Retardant Coatings

Fire retardant coatings for residential and commercial

When Rules Meet Reality: The Struggle for Innovation

CHALLENGE

❑Innovation vs. Tradition:

The market wants new solutions with a 30-year track record—how can we innovate under these constraints?

❑Standards Paradox:

Do current regulations safeguard or slow down progress, especially in real-world conditions?

POTENTIAL SOLUTIONS

✓Collaborative Standard update Product Launch:

Collaborate with regulators to update standards and introduce simulation-based testing and pilot programs to validate new solutions faster

✓Tailored Solutions:

Develop coatings that adapt to harsh conditions while remaining compliant, using smarter materials and application methods.

A NEW COATING SOLUTION FOR WET SUBSTRATES

SEALFORLIFE Industries

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Challenges: Coating Applications on Wet Surfaces

- Difficult application conditions in real-world environments
- Difficulty adhering coatings to wet or submerged surfaces
- Complex and cumbersome coating application equipment
- Health and safety concerns for applicators
- Environmental impact from coatings and surface preparation
- Inconsistent application quality
- High mobilization and demobilization costs due to heavy equipment and consumables
- Waste disposal challenges

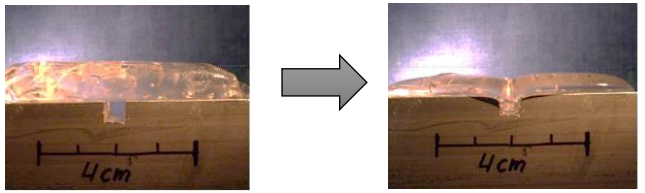
Solution: STOPAQ Coating System for Wet/Submerged Surfaces

STOPAQ Coatings: Non-toxic, cold-applied, self-healing prefabricated wrap coatings, based on a non-crystalline, low-viscosity, non-cross-linked compound

Benefits:

- Minimum surface preparation, no surface profile necessary
- Adheres to most surfaces
- Predefined coating thickness
- No VOCs, chemical exposure hours
- Environmentally friendly
- Minimum waste management solution
- 30-year design life

Self-Healing



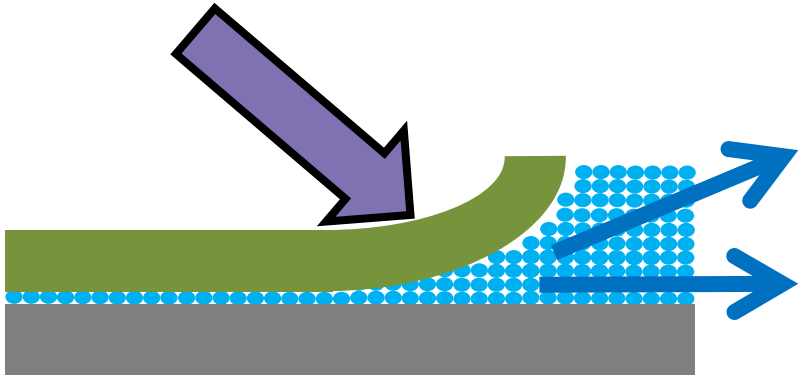
Once pumped on the pipes

Hand applied in the field or at the factory

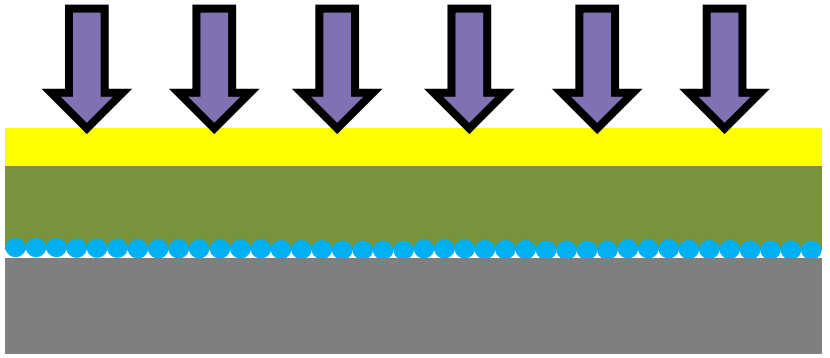
Application Underwater

An Innovative Coating for Application on Wet Surfaces

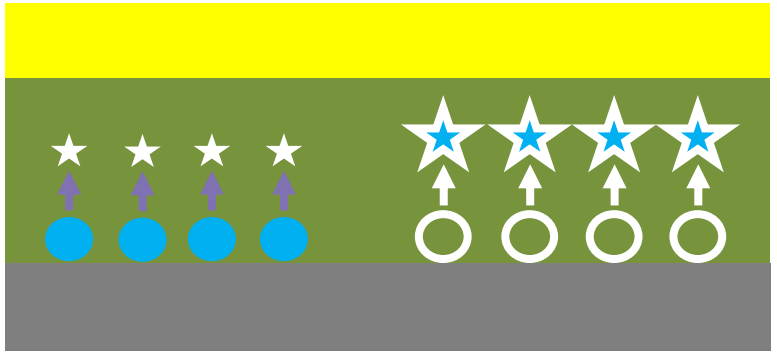
Stopaq Wrappingband WSH – A New Patented Solution



Water is displaced during application using tension



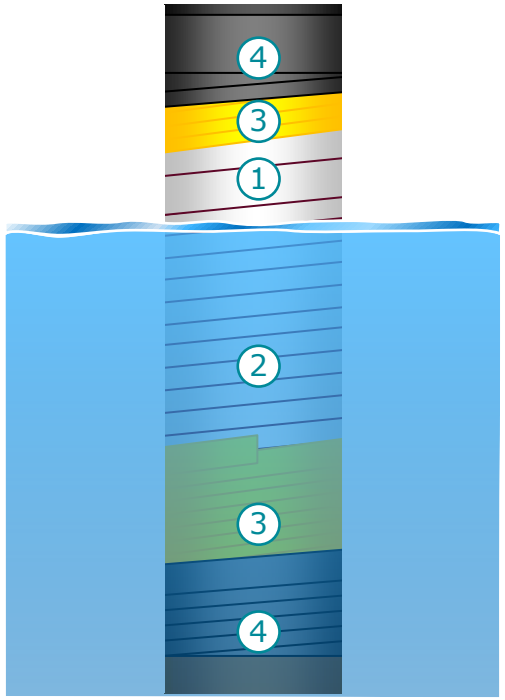
Flexible Polymeric tape is applied with tension over Wrappingband WSH, pushing it to the surface



Water will be retracted from the surface and will migrate into the compound of Wrappingband WSH

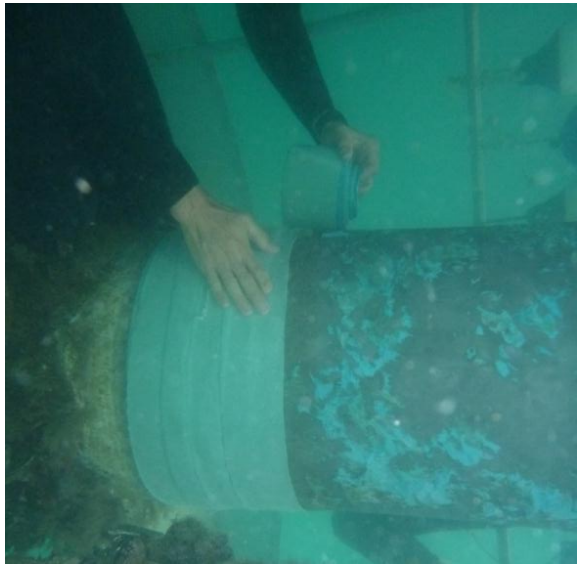
Stopaq Wrappingband WSH – Applications

Splash zone Risers and Piles

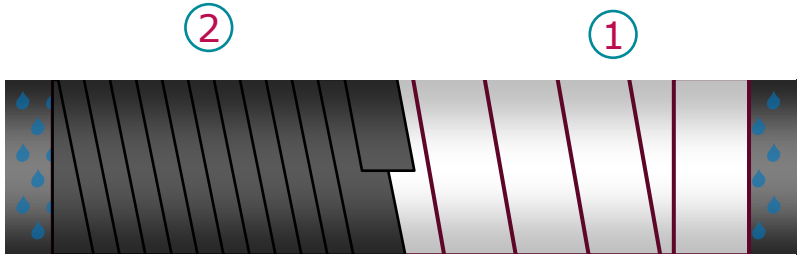


1) Wrappingband WSH: Above high water line; Overlap minimum 10mm
2) Wrappingband WSH: Below high water line; Overlap minimum 50%
3) Intermediate Wrap PVC; Entire section; Overlap minimum 50%
4) Outerglass Shield: Over Intermediate Wrap PVC; Overlap minimum 67%

Submerged pipeline coating repair



Wet pipelines



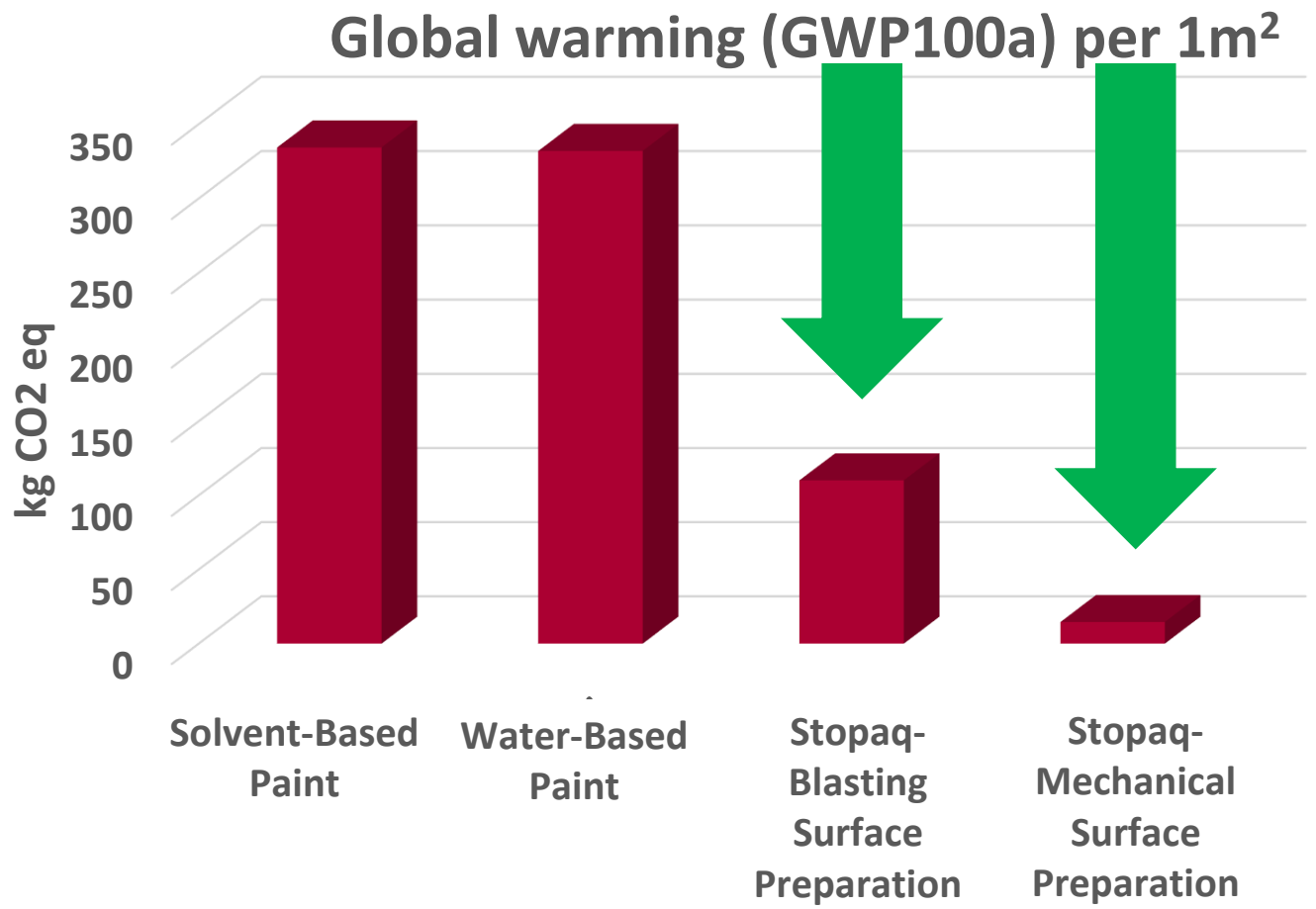
1) Wrappingband WSH: Overlap minimum 10mm
2) Outerwrap HSPEX: Overlap minimum 50%

A Novel Sustainable Coating Solution

STOPAQ Wrappingband WSH coatings compared to traditional liquid coatings, over the lifetime of 25-years:

- ✓ **96%** reduction in overall carbon emission. The carbon emission reduction is equal to annual CO_2 offsetting by 16 trees per m^2 of the coating
- ✓ **98%** reduction in carbon emission in end-of-life process
- ✓ **96%** reduction bulk waste and **90%** reduction in hazardous waste per m^2
- ✓ **91%** reduction in single score impact (ecosystem, human health, resources)

Comparison with paint coatings



A NEW ABRASION RESISTANT OVERLAY (ARO) COATING
FOR HORIZONTAL DIRECTIONAL DRILLING PROCESS

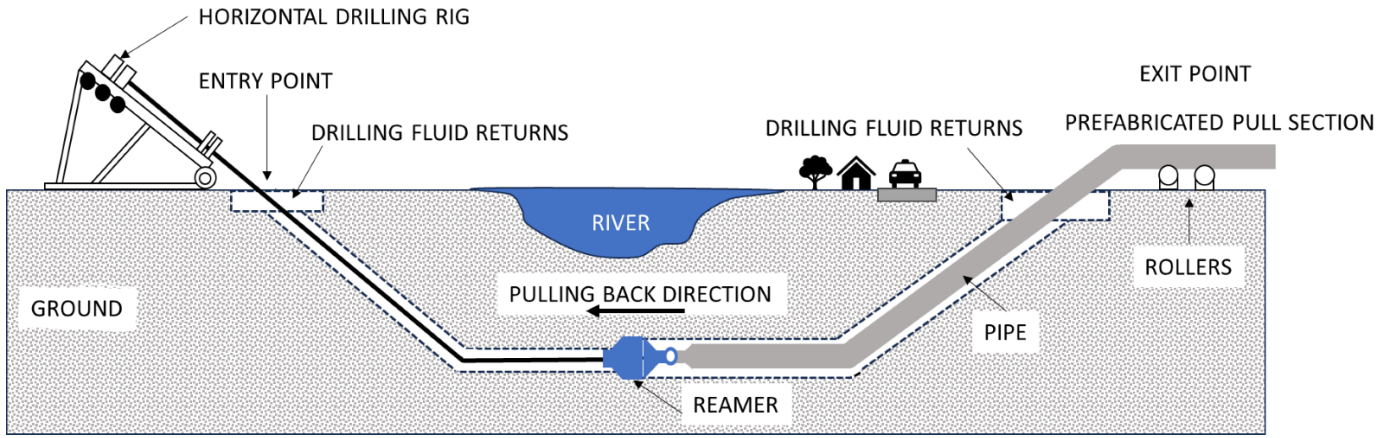
Powercrete®

Pipeline Liquid Coating Technology

SEALFORLIFE Industries

Henkel

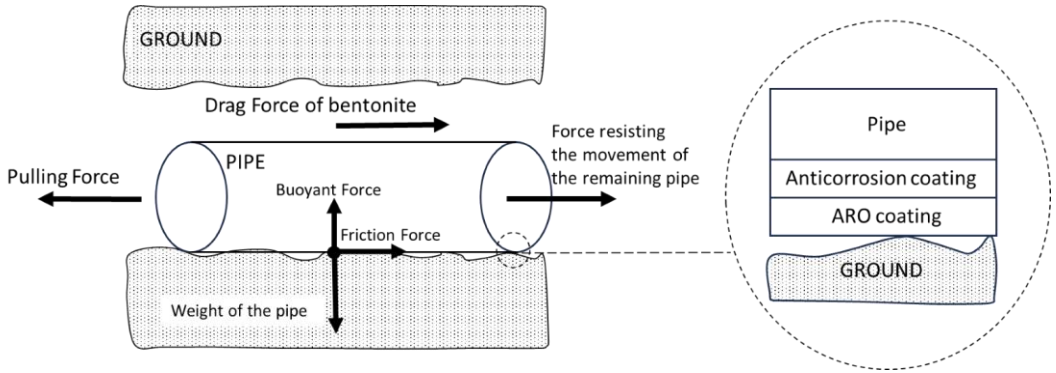
Challenges Related to Horizontal Directional Drilling (HDD)



Passive Features	Active conditions
• Geological factors • Topographic/hydrographic details • Geotechnical aspects • Stability of the bore geology • Earth material deformations • Groundwater	• Crossing Geometry • Drilling conduct • Subsurface voids • Site Integrity • Installation Timing • Drilling Mud

Solution: Abrasion Resistant Overlay (ARO) Coatings

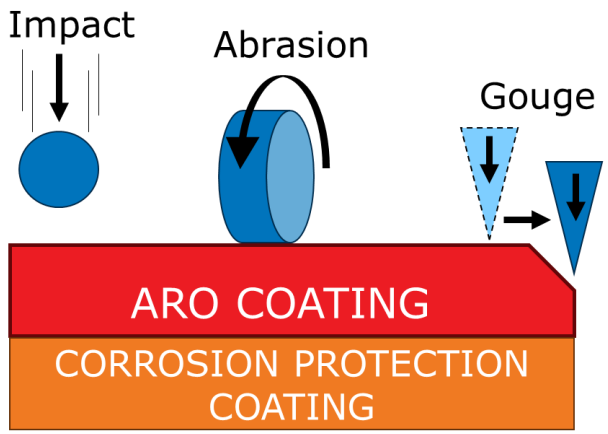
- Abrasion Resistant Overlay (ARO) coatings are the first line of defense
- These coatings provide an extra layer of protection over the anti-corrosion coating applied to the surface of the pipeline prior to HDD process

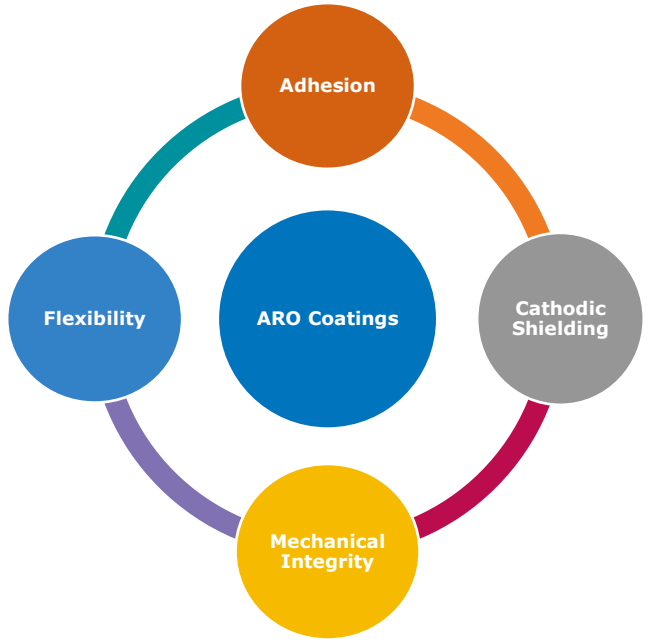


ARO Solutions for Challenging HDD Applications

Key requirements of ARO Coatings

- Adhesion to the coated pipeline.
- Compatibility with CP systems
- Outstanding resistance to Shear, Abrasion, Impact, and Gouge (SAIG).





Coating Solutions:

- Liquid Epoxy Polymer Concrete
- Dual-Layer FBE
- 3 Layer PE
- Composites

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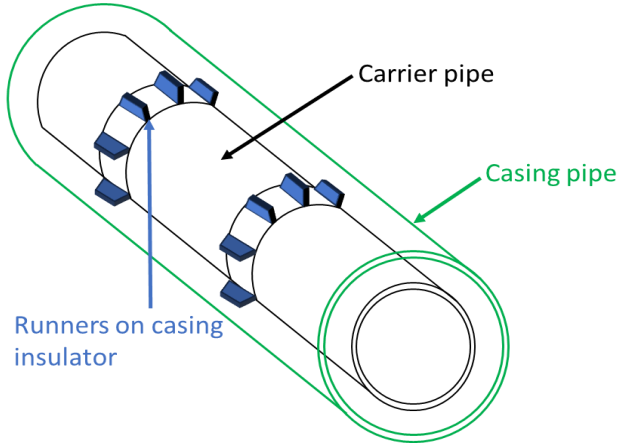
Epoxy Polymer Concrete Coatings as a superior ARO

Powercrete®
Pipeline Liquid Coating Technology



1980s	1990s	2000s	2010s	2020s
Invention of an epoxy-based polymer concrete	Liquid Epoxy Polymer Concrete (LEPC) for pipeline protection	LEPC coatings gain prominence in the pipeline industry.	LEPC coatings become a standard solution for ARO	Continuous R&D to enhance LEPC formulations and application techniques.

Liquid Epoxy Polymer Concrete Coatings

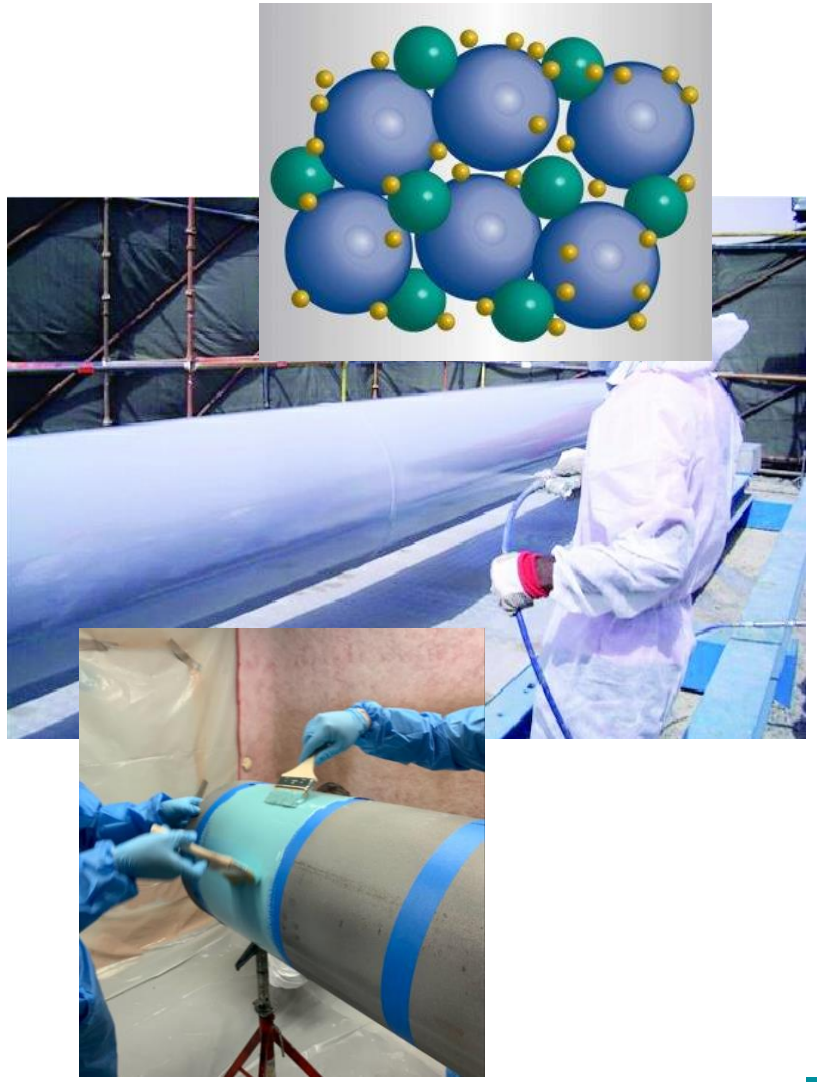
- **NEW Powercrete 410:** a unique coating that leverages an engineered blend of ceramic fillers within an epoxy polymer matrix.

Enhanced Application Benefits:

- ✓ 3 times faster cure
- ✓ Even mix ratio (4:1)
- ✓ High hang-ability formulation
- ✓ Field joint coating application
- ✓ Can be sprayed and hand applied up to 2000 micron (80 mils)
- ✓ 100% Solids Epoxy, No VOC

Superior Performance:

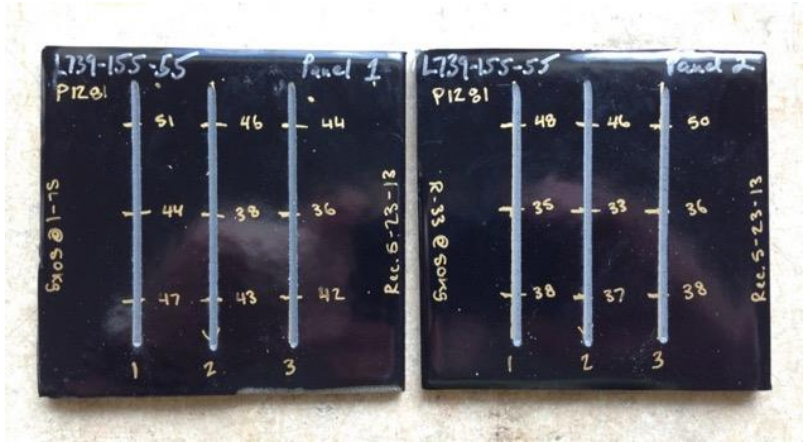
- ✓ Excellent adhesion to FBE
- ✓ Excellent mechanical properties
- ✓ Superior abrasion resistance
- ✓ Higher flexibility
- ✓ Sacrificial coating designed to not interfere with the CP system
- ✓ Compliant to CSA 245.20 and AWWA C410

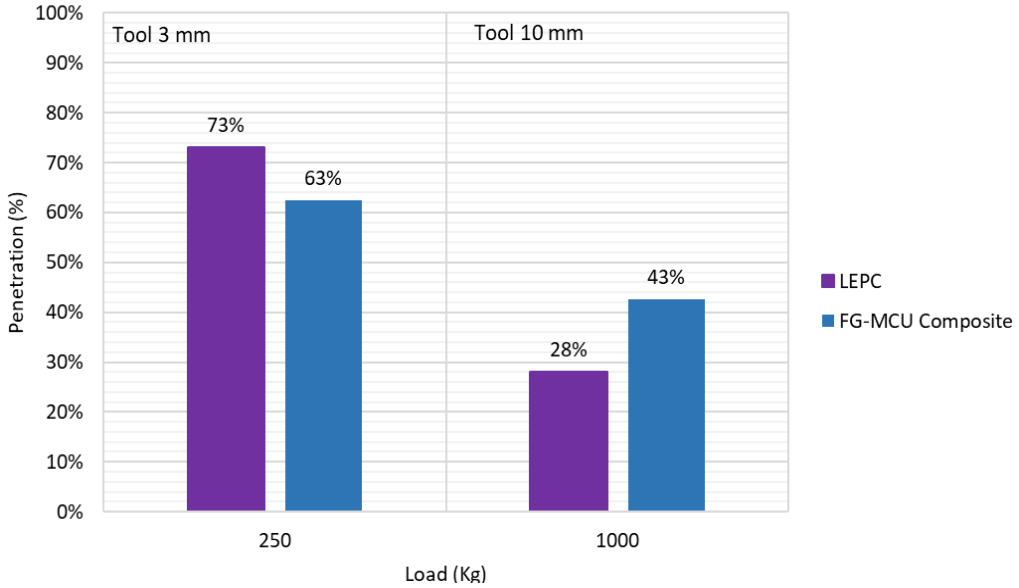


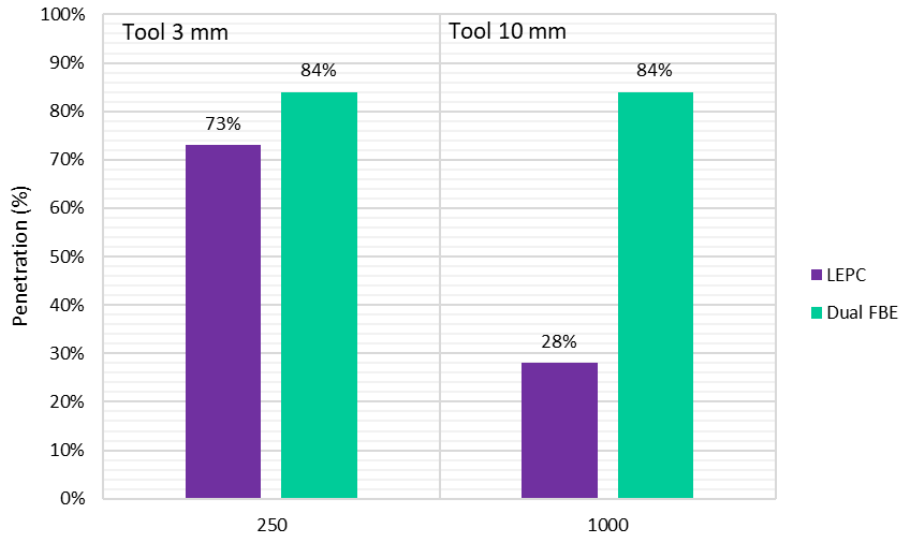
Superior Performance Compared to Alternatives

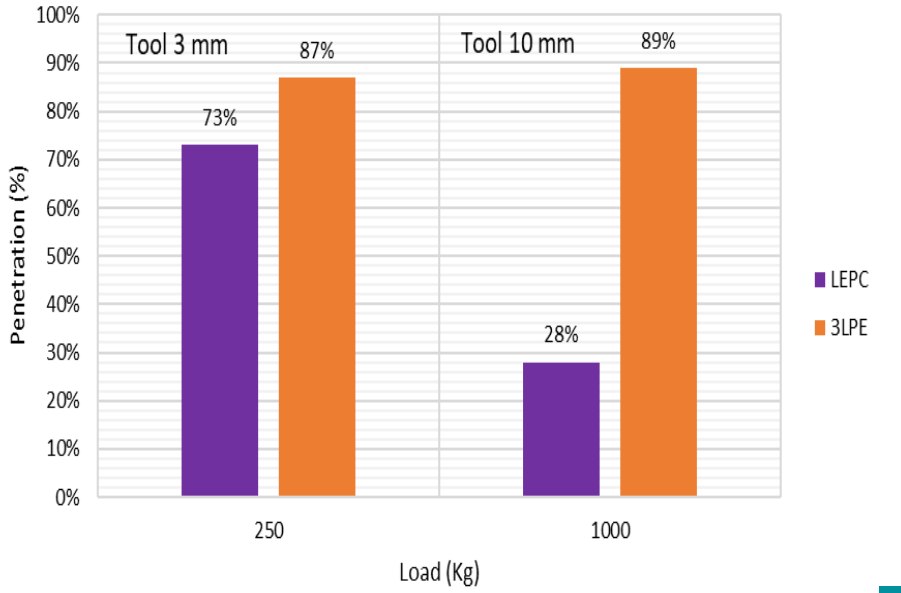
Gauge Resistance Comparison:

✓Excellent resistance to scoring due to sharp rocks



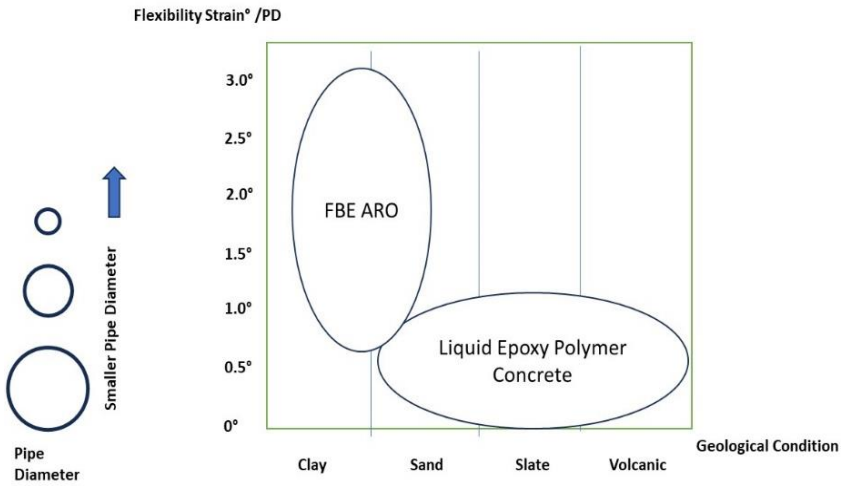






LEPC Coatings vs Dual-Layer FBE

- LEPC is optimal for larger pipe diameters and challenging soil environments.
- Dual-Layer FBE is the preferred choice for smaller pipe diameters and less aggressive soil conditions.



	LEPC – Epoxy Ceramic	FBE-ARO Dual
Dry Film Thickness	40 – 80 mils (1000 to 2000 µm)	16 a 20 mils (400 – 600 µm)
Hardness, ASTM D 2240	83 Shore D	85 Shore D
Flexibility **NACE SP 0394**	0.75 ◦/PD	3.0 ◦/PD
Impact	9.0 Joules (PC DD)	6.0 Joules
ASTM G 14 Abrasion **ASTM D 4060**	< 60 mg 1400 cycles per mil	< 120 mg 1200 Cycles per mil
CS 17 – Perdida Gauge Resistance	11 mils At 50 Kg – 25 C	15 mils At 50 Kg - 25 C

THANK YOU!

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