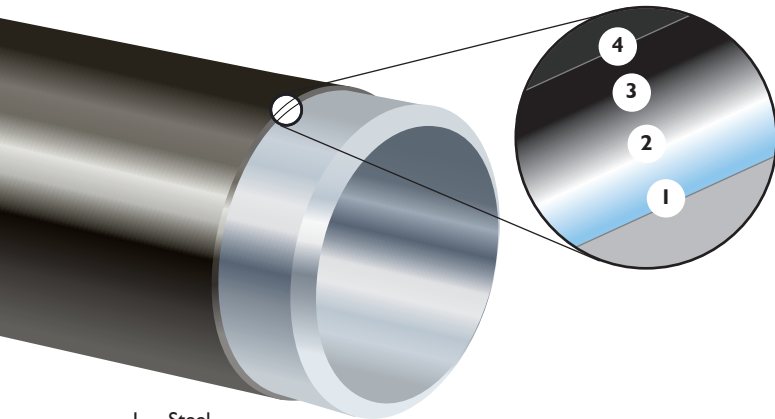


HPCC

High Performance Composite Coating



1. Steel
2. Fusion Bonded Epoxy
3. FBE/Adhesive Interface
4. Polyethylene

Product Description

High Performance Composite Coating (HPCC) is an advanced composite system that represents the latest development in anti-corrosion systems. **The product consists of fusion bonded epoxy, polyolefin adhesive and tough polyethylene.** HPCC is designed to protect buried oil and gas pipelines in environments where superior mechanical protection, moisture and corrosion resistance and moderate to high operating performance characteristics are required.

Applications



Oil & Gas Pipelines



Small Diameter Pipelines



Large Diameter Pipelines



Wet Environments

Related Standards and Specifications

- CSA Z245.21 (System B2)
- ISO 9001:2008

For additional standards and specifications with which this product complies, please contact your Bredero Shaw representative. In Canada, consult Shaw Pipe.



Long Term Corrosion Protection

- The FBE component of HPCC provides excellent adhesion to steel, providing superior long term corrosion resistance and protection of pipelines operating up to 85°C.
- The superior adhesion properties of the FBE also provide excellent resistance to cathodic disbondment, reducing the cost of cathodic protection during the operation of the pipeline.

Fused Monolithic Coating System

- The unique application process of HPCC provides a fused, monolithic profile that prevents delamination and loss of adhesion.
- The system demonstrates excellent field handling and flexibility characteristics, minimizing construction installation costs.

Very Good Mechanical Protection

- HPCC provides excellent uniform coverage of the weld bead profile, preventing "tenting" and weaknesses in the coating cross-section.
- Polyethylene component protects the pipeline during transportation, reducing costly repairs while also providing added in-ground protection against shear forces, chemicals and abrasive soil conditions.

Flexible Solutions

- Advanced manufacturing techniques allow the HPCC System to be customized to your specific project.
- Can be applied to various pipe diameters from 400 mm (16") to over 1066 mm (42").
- Can be applied in a wide range of thicknesses to cost effectively meet unique project specifications and performance requirements.

High Performance Composite Coating

Typical Plant Capabilities and Product Properties

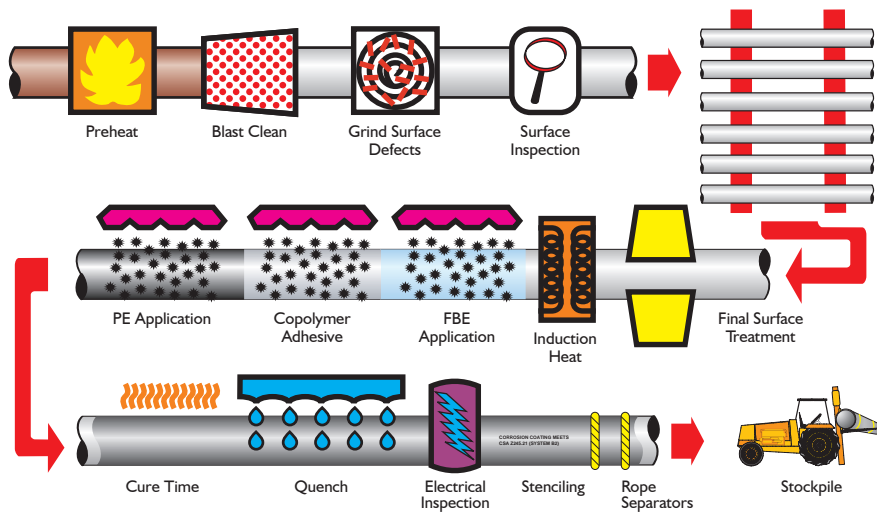
Capability/Property	HPCC
Minimum Pipe Diameter	355 mm (14")
Maximum Pipe Diameter	1066 mm (42")
Minimum Pipe Length	18.3 m (60')
Maximum Pipe Length.....	25 m (82')
Minimum Recommended Operating Temperature	-40°C (-40°F)
Maximum Recommended Operating Temperature	85°C (185°F)

Values shown are typical and may vary from plant to plant. Consult Bredero Shaw for special requirements. In Canada, consult Shaw Pipe.



HPCC_rev022

Product Application Process



Plants

North America

Camrose, Alberta
Regina, Saskatchewan

EMAR

Jubail, Saudi Arabia (planned)

About Bredero Shaw

Bredero Shaw is the global leader in pipe coating solutions. With more than 80 years of experience, the largest team of dedicated pipe coating professionals, the most extensive network of strategically located plants worldwide and with proven innovative coating technologies, the company has protected more pipelines in virtually every environment and operating condition than anyone in the industry.

Bredero Shaw offers technologically advanced solutions for anti-corrosion coatings, protective and weight coatings, thermal flow assurance coatings, internal coatings, custom coatings and field joints for both onshore and offshore applications. This broad range of products and services provides Bredero Shaw with the unique capability to service the full spectrum of pipeline protection and flow assurance requirements. Consult your Bredero Shaw representative for your unique project requirements.

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