

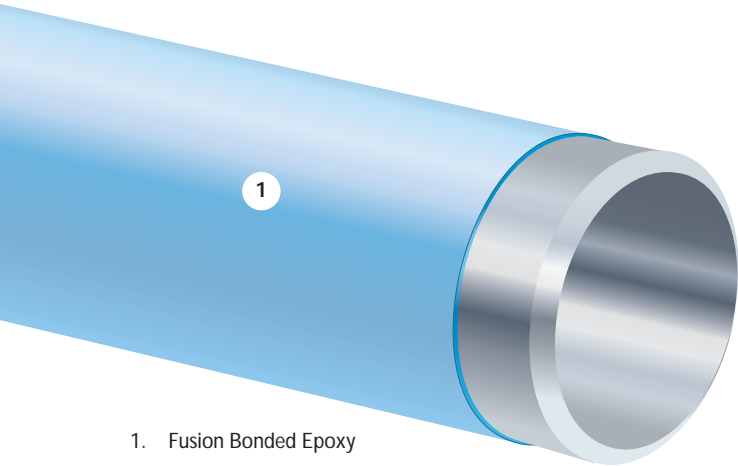
# FBE

## Fusion Bonded Epoxy Powder Coating



ANTI-CORROSION

PRODUCT DATA SHEET



1. Fusion Bonded Epoxy

### Product Description

Bredero Shaw is the world's leading provider of Fusion Bonded Epoxy (FBE) coatings. **FBE is a high performance anti-corrosion coating that provides excellent protection for small and large diameter pipelines with moderate operating temperatures.**

### Applications



Oil & Gas Pipelines



Large Diameter Pipelines



Small Diameter Pipelines



Waterworks Pipelines

### Related Standards and Specifications

- CSA Z245.20
- GAZ de France R 09
- NF A 49 706
- AWWA C 213
- GBE/CW 6
- ISO 10080
- AS3862:2002
- NACE RP 0394
- 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

- FBE's excellent adhesion to steel provides superior long term corrosion resistance and protection of pipelines operating at moderate temperatures for the designed life.
- Superior adhesion properties provide excellent resistance to cathodic disbondment which reduces the total cost of cathodic protection during the operation of the pipeline.

### Engineered Solutions

- Advanced manufacturing techniques allow FBE to be customized to your specific project.
- Can be applied to various pipe diameters from 90 mm (3.5") to over 1220 mm (48").
- Can be applied in a wide range of thicknesses to cost effectively meet unique project specifications and performance requirements.

### Good Mechanical and Chemical Protection

- FBE can be applied as a dual layer product which provides tough physical properties that minimize damage during handling, transportation, installation and operation.
- FBE has been designed for good chemical resistance under most soil conditions.

### Global Availability

- FBE can be manufactured in a single plant or in multiple coating plants to improve project logistics.
- High capacity within the Bredero Shaw plant network allows the client to benefit from single source advantages, ultimately providing more cost effective management of pipe coating needs.

Features & Benefits

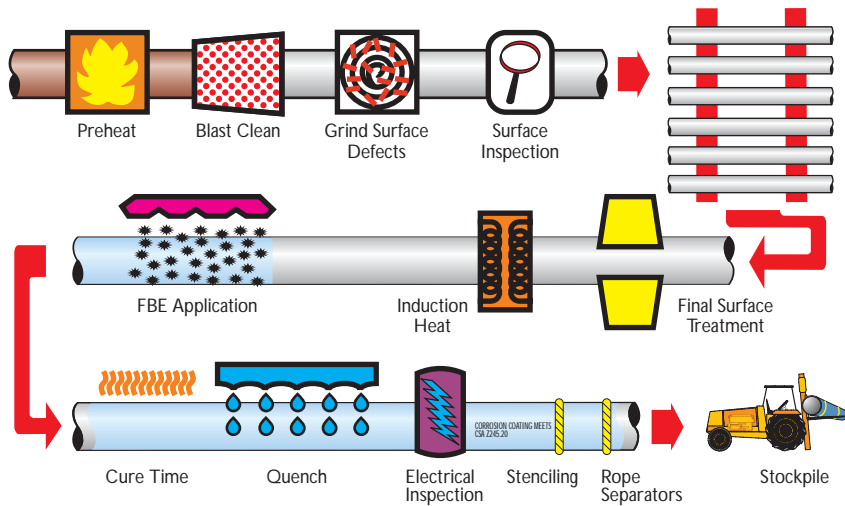
## Fusion Bonded Epoxy Powder Coating

### Typical Plant Capabilities and Product Properties

Capability/Property	FBE
Minimum Pipe Diameter .....	90 mm (3.5")
Maximum Pipe Diameter .....	1220 mm + (48" +)
Minimum Pipe Length .....	5.5 m (18')
Maximum Pipe Length.....	25 m (82')
Minimum Recommended Operating Temperature .....	-40°C (-40°F)
Maximum Recommended Operating Temperature .....	105°C (220°F)*

Values shown are typical and may vary from plant to plant. Consult Bredero Shaw for special requirements. In Canada, consult Shaw Pipe.  
\* Dependent on soil and environment conditions

### Product Application Process



FBE\_rev021

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### Plants

#### North America

Camrose, Alberta  
Regina, Saskatchewan  
Portland, Oregon  
Fontana, California  
Vineyard, Utah  
Pearland, Texas

#### Latin America

Monterrey, Mexico  
Veracruz, Mexico  
Belo Horizonte, Brazil

#### EMAR

Ellon, Scotland  
Leith, Scotland  
Orkanger, Norway  
Jubail, Saudi Arabia  
Ras Al Khaimah, UAE

#### Asia Pacific

Rayong, Thailand  
Kuantan, Malaysia  
Kabil, Batam Island, Indonesia  
Kembla Grange, Australia

### 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.

The information contained herein is indicative of the types of coatings provided by Bredero Shaw, and is not intended to be a guarantee that a particular coating will be suitable for a given application. Since many unique environmental, operating, and design conditions must be considered, the user shall determine the suitability of the coating for the intended use and assume all the risks and liabilities in connection therewith. Bredero Shaw's liability is stated in our standard conditions of sale.