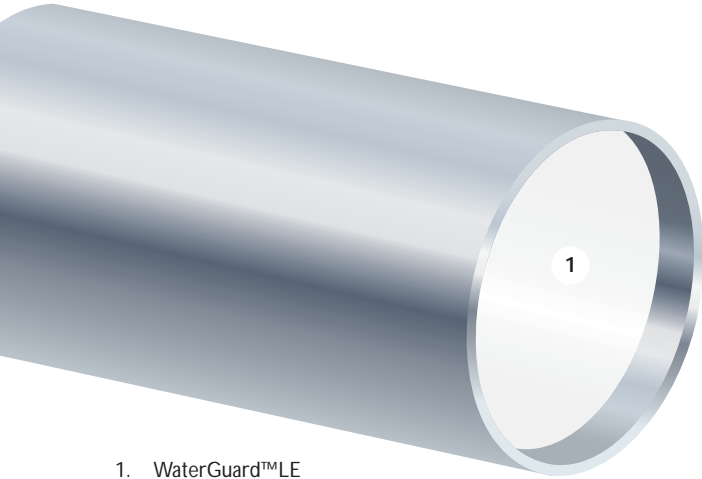
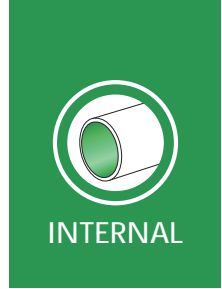


WaterGuard™ LE

Solvent Free Epoxy Protective Lining



1. WaterGuard™ LE

Product Description

WaterGuard™ LE is a 100% solids, two component, solvent free, high build epoxy lining used to provide corrosion protection for the internals of steel pipes. It conforms to BS6920 and ANSI/NSF 61 standards for potable water, and can also be used for other applications including raw water, process water, sewage, wastewater, crude oil, and white oils. It is designed for high build single coat applications by airless spray equipment.

Applications



Water Pipelines



Anti-Corrosion Coating



Custom Coating



Repair & Rehab



Girth-Weld Joints



Fittings & Bends

Related Standards and Specifications

- ANSI/AWWA C210
- ANSI/NSF 61
- BS 6920
- AS 4020
- ISO 9001:2008

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



Excellent Performance Properties

- WaterGuard™ LE cures to form a hard and glossy surface film with excellent resistance to a wide range of aqueous chemicals including potable water, effluents, raw water, process water, sewage, crude oils, and white oils.
- Exhibits excellent adhesion on correctly prepared steel surfaces.
- Compatible with most readily available field joint coating systems such as heat-shrinkable sleeves, liquid epoxy, FBE and polyurethane coatings.

Easy Application

- Is suitable for application as a single coat system, using both standard and/or plural component airless spray equipment.
- Capable of being applied by roller or brush for small applications and repairs.

Environmentally Safe

- With a 100% volume solids, zero VOC formulation, WaterGuard™ LE is designed to meet strict Health, Safety and Environmental standards.
- Eliminates solvent emissions, explosion risk and fire hazard and is designed to eliminate the risk of solvent retention which can influence water quality and coating defects.

Global Availability

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

WaterGuard™ LE

Solvent Free Epoxy Protective Lining

Typical Plant Capabilities and Product Properties

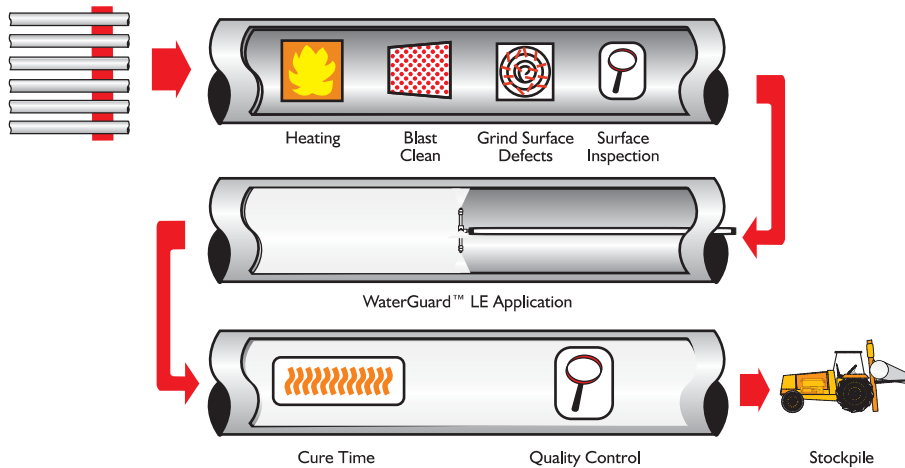
Capability/Property	Unit Value	Test Description	Results
Adhesion	MPa	ASTM D 4541	15 min.
Adhesion		ASTM D 3359 (Method A, cross cut)	4A min.
Hardness	Pencil	ASTM D 3363	5H min.
Flexibility (Conical Mandrel)	180° bend over 102 mm mandrel	ASTM D 522	No flaking, cracking or adhesion loss
Abrasion Resistance	mg loss per 1000 rev	ASTM D 4060 CS 17 wheel, 1 kg load	100 max.
Cathodic Disbondment @ 20± 3°C, 30 days	mm	ASTM G8	9.53 max.
@ max. rated service temp± 3°C, 30 days	mm	ASTM G95	20 max.
Immersion Resistance De-ionized water	No blistering, peeling or disbondment	AWWA C210-07; partial immersion for 30 days @ 24°C	Pass
1 wt% Sodium Hydroxide			Pass
1 wt% Sulphuric Acid			Pass



WaterGuard™ LE_rev022

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

Product Application Process



Plants

North America

Camrose, Alberta
Portland, Oregon

EMAR

Leith, Scotland
Jubail, Saudi Arabia
Ras Al Khaimah, UAE

Asia Pacific

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.

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