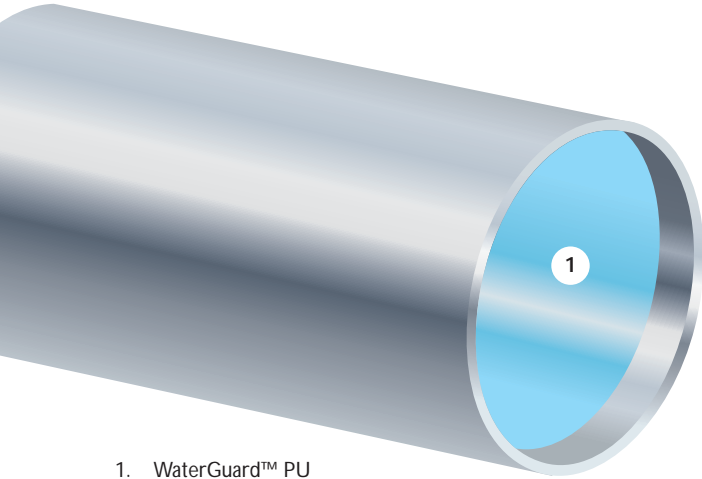


WaterGuard™ PU

Solvent Free Rigid Polyurethane Lining



INTERNAL



1. WaterGuard™ PU

Product Description

WaterGuard™ PU is a 100% solids, two component, 1:1 mixing by volume, high performance, high build, fast set, aromatic and rigid polyurethane lining. **It has been specifically designed as a corrosion and abrasion resistant coating for long term protection of water pipe internals.** It complies with the requirements of NSF/ANSI 61 standard for potable water and AWWA C222 standard. It can also be used for other applications including raw water, process water, sewage, and wastewater.

Applications



Water Pipelines



Anti-Corrosion Coating



Custom Coating



Abrasion Coating



Repair & Rehab



Girth-Weld Joints



Fittings & Bends

Related Standards and Specifications

- ANSI/AWWA C222
- ANSI/AWWA D102
- ANSI/NSF 61
- GS-11
- BGC/PS/CM2
- 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™ PU cures to form a very hard and tough surface film with excellent resistance to abrasion, impact, chemical attack, and cathodic disbondment.
- Exhibits excellent adhesion on correctly prepared steel and ductile iron surfaces.
- Application of a primer is not necessary.
- Compatible with most readily available field joint coating systems such as heat-shrinkable sleeves, liquid epoxy, FBE, and polyurethane coatings.

All Temperature Cure and Unlimited Film Build

- WaterGuard™ PU can be cured at almost any ambient temperature.
- The product has a very fast curing time and is therefore applied using plural component spray equipment.
- Unlimited film build can be achieved in a single coat multi-pass application.
- The end result is a thick, impervious, and holiday free internal coating film within minutes of spray application.
- Inspection and quality testing can be made within 30 minutes and pipes can be put onto service within hours.

Environmentally Safe

- 100% solids, solvent and VOC free designed to meet strict Health, Safety and Environmental standards.
- Contains only pure resins and the finished coating is safe for drinking water and food contact.

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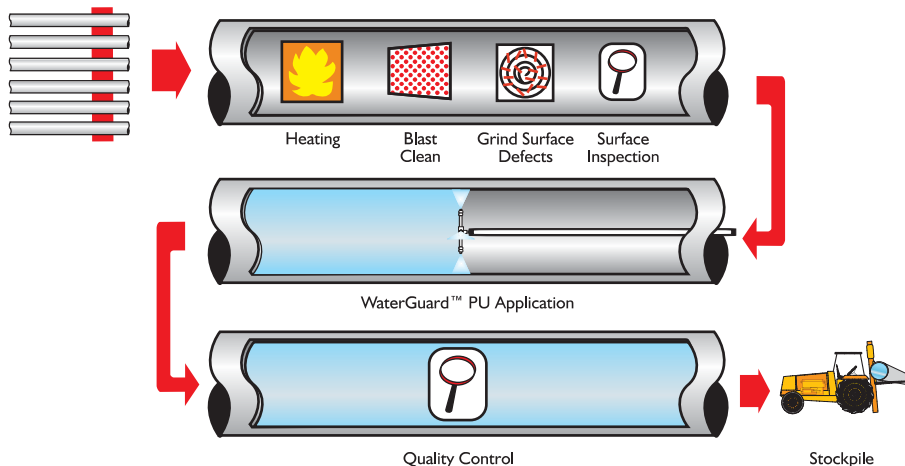
Typical Plant Capabilities and Product Properties

Capability/Property	Test Description	WaterGuard™ PU
Cure to Touch		3 - 5 minutes at 23°C (77°F)
Cure to Handle.....		15 - 20 minutes at 23°C (77°F)
Time to Recoat.....		10 - 20 minutes at 23°C (77°F)
Adhesion to Steel	ASTM D4541 (SP10, 2.5 mil)	2000+ psi
Hardness	ASTM D-2240	77 Shore "D"
Flexibility	ASTM D-522	80° at over 1" mandrel
Abrasion Resistance.....	ASTM D-4060 (Taber CS-17)	< 60 mg at 1 kg per 1000 cycles
Resistance to Cathodic Disbondment	ASTM G8 (23°C, 28 Days)	< 8 mm radius
Resistance to Cathodic Disbondment	ASTM G8 (65°C, 48 hours)	< 6 mm radius
Impact Resistance	ASTM D-2794	> 40 in. Lbs.

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

WaterGuard™ PU_rev021



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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