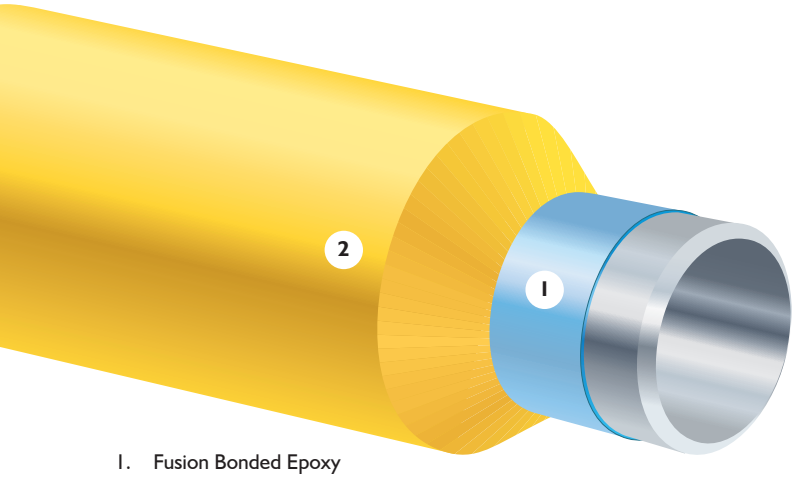
ThermoFlo®

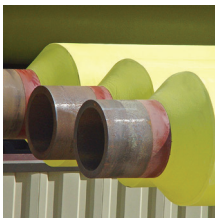
Polyurethane Insulation Systems

FLOW ASSURANCE

PRODUCT DATA SHEET



1. Fusion Bonded Epoxy
2. Syntactic Polyurethane



Product Description

ThermoFlo® is a polyurethane-based insulation coating designed for offshore flow assurance. The product can be customized to meet stringent specifications for both shallow and deep water and can be installed using all subsea pipe-lay methods including reeling, J-lay and S-lay.

Applications

Subsea Pipelines

Small Diameter Pipelines

Features & Benefits

Superior Insulation Properties

- Provides superior insulation properties in subsea pipelines for flow assurance applications.
- Achieved through a combination of material formulation and processing technology designed to meet strict thermophysical performance tolerances.

Flexible Installation

- Can be installed using all subsea laying methods including reeling, S-lay and J-lay.
- High degree of flexibility and has been successfully reeled at thicknesses up to 106 mm (4.2”).
- The elastomeric nature of the material provides excellent impact resistance and fatigue life.

Engineered Solutions

- Engineered to meet a specific project requirement by varying thickness and material formulation for both shallow water and deep water applications.
- The compressive and creep response of ThermoFlo® materials have been subjected to extensive external and internal testing and modelling, resulting in a product line where the dimensional changes and thermophysical properties are predictable over time.

Used for Pipelines and Complex Structures

- In addition to pipeline insulation, ThermoFlo® products are extremely versatile allowing for applications on complex structures. Examples of these are trees, jumpers and manifolds where thicknesses up to 150 mm (6”) have been applied.

ThermoFlo®

Polyurethane Insulation Systems

BREDERO SHAW
A SHAWCOR COMPANY

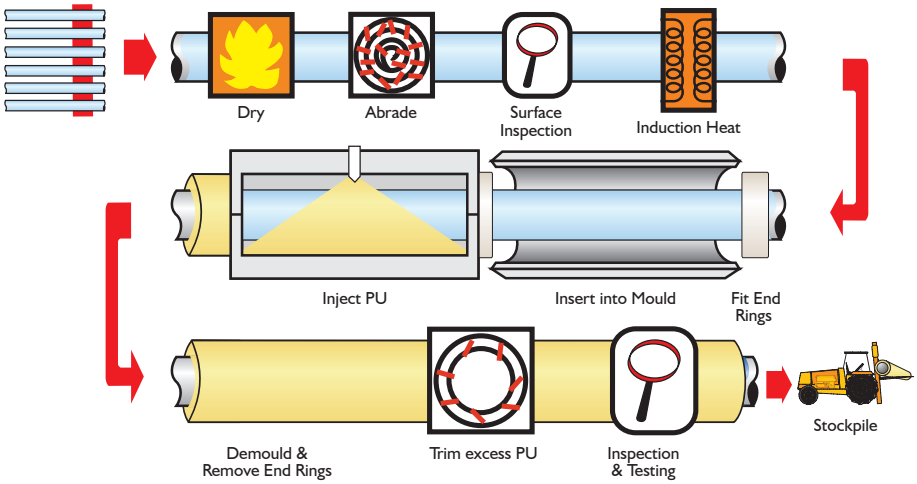
Typical Plant Capabilities and Product Properties

Capability/Property	Shallow Water ThermoFlo® (S)	Deep Water ThermoFlo® (D)
Minimum Pipe Diameter	100 mm (4")	100 mm (4")
Maximum Pipe Diameter	600 mm (24")	600 mm (24")
Minimum Operating Temperature	-55°C (-67°F)	-55°C (-67°F)
Maximum Operating Temperature	90°C (194°F) Wet 115°C (240°F) Dry	90°C (194°F) Wet 115°C (240°F) Dry
Minimum Pipe Length	1 m (3')	1 m (3')
Maximum Pipe Length	13 m (43')	13 m (43')
OHTC ("U" Value)	> 1.8 W/m^2.K (0.317 BTU/hr.ft^2.F)	> 2.0 W/m^2.K (0.352 BTU/hr.ft^2.F)
Maximum Water Depth	300 m (1000')	2800 m (9200')
K-Value	0.13 W/m.K (0.058 BTU/ft.hr.F)	0.155 - 0.17 W/m.K (0.087 - 0.099 BTU/hr.ft.F)

Values shown are typical and may vary from plant to plant. Consult Bredero Shaw for special requirements.

ThermoFlo®_rev022

Product Application Process



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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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.

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