



CORE LINEPIPE

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## CORE Liner® Application Envelope

### I. Background

CORE Liner® is a pipe-in-pipe system that utilizes an outer steel pipe for structural strength and an inner polymer liner pipe for corrosion resistance. The outer steel pipe is joined using the proprietary ClickWeld® joining system, eliminating steel welding in the field. The inner polymer liner is joined using electrofusion fittings. CORE Liner® combines the strength of carbon steel and the corrosion resistance of polymers.

Similar to other piping systems, pipelines made with CORE Liner® should follow the requirements of CSA Z662 and the applicable regulations.

### II. Application Envelope

CORE LINER® Application Envelope								
	WT	External Coating	Pressure Capacity 	Temperature 	Water 	Oil 	Gas 	H <sub>2</sub> S 
6" CORE Liner®	4.8	YJ	14,740 kPa/ 2138 psi	60°C (140°F)	YES			
		YJ2K		80°C (176°F) Water/ 60°C (140°F) Oil				
8" CORE Liner®	5.6	YJ	9930 kPa/ 1440 psi	60°C (140°F)	YES			
		YJ2K		80°C (176°F) Water/ 60°C (140°F) Oil				

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### III. Sour Service

The testing has confirmed that CORE Linepipe® may be used in services containing H<sub>2</sub>S according to the following table:

CORE Linepipe Inc. Product	Maximumn Operating Pressure kPa*	Service Conditions
OD 168.3 mm, WT 4.8 mm OD 219.1 mm, WT 5.6 mm	≤ 4,960 kPa	Any P <sub>H<sub>2</sub>S</sub> or effective P <sub>H<sub>2</sub>S</sub> with any water pH
	4,960 kPa to 9,930 kPa	P <sub>H<sub>2</sub>S</sub> or effective P <sub>H<sub>2</sub>S</sub> up to 100 kPa(a) with water pH higher than 5.5
		P <sub>H<sub>2</sub>S</sub> or effective P <sub>H<sub>2</sub>S</sub> up to 10 kPa(a) with water pH between 4.5 and 5.5

\*Must also ensure that if in gas service having greater than 10 moles/kmole H<sub>2</sub>S, maximum stress level is below 60% of nominal SMYS for buried pipe, and below 50% of nominal SMYS for above-ground pipe.



#### IV. Additional Design Parameters

CORE Liner<sup>®</sup> is suitable for use in oil and gas applications having a wide range of operating parameters:

SR#	Description	Range
1	Design Temperature, minimum	Down to -45°C (-49°F)
2	Vacuum	Down to -97 kPa(g) (-14 psig)
3	Aromatic Hydrocarbons	Up to 25% by volume
4	Hydrogen Sulfide (H <sub>2</sub> S) Gas	Up to 100 kPa(a)
5	Carbon Dioxide (CO <sub>2</sub> ) Gas	Up to 100% concentration
6	Methanol and Ethanol	Up to 100% concentration
7	pH	Down to pH = 3

#### V. Application Review

All applications are evaluated on a project basis by CORE Linepipe<sup>®</sup> engineering via the application review process to confirm the suitability of CORE Liner<sup>®</sup> for the intended service conditions. CORE Liner<sup>®</sup> may also be suited for operating conditions exceeding the above parameters. Please contact CORE Linepipe<sup>®</sup> for a project specific application evaluation.