



Product Data Sheet

CORE LINEPIPE

I. General

CORE Liner is a factory built HDPE lined carbon steel pipeline system using Clickweld® mechanical interference fit joints.

II. Materials

Pipe	ERW CSA Z245.1 Grade 359 Category II M45C Sour Service, or API 5L X52
Flange	ASME B16.5 Raised Face Weld Neck
	ASTM A350 LF2 class 1 for 4" ANSI 300 & 600, 6" ANSI 300 & 600, and 8" ANSI 300
	CSA Z245.12 Grade 359 Category II M45C Sour Service for 4" ANSI 900 & 1500, 6" ANSI 900 & 1500, and 8" ANSI 600
TOL	½" MSS SP-97 Class 3000 or 6000 NPT Threaded and Socket Welded, ASTM A350 LF2 Class 1
Clickweld® Parts	API 5CT L80 Type 1
Elbow	shop or field cold bent pipes, minimum 20 x D
Riser	shop or field cold bent pipes, minimum 20 x D
Liner	Bi-modal high-density polyethylene PE4710 DR25 with a minimum PENT >2000 hrs
EF Fitting	Bi-modal high-density polyethylene PE100+ with a minimum PENT >2000 hrs
Pipe Coating	Shawcor Yellow Jacket up to 60°C (140°F), and YJ2K up to 82°C (180°F)
Joint protection	Field applied shrink sleeves or WrapidBond®

III. Product Range

Series	Maximum Pressure Rating		Maximum Temperature Rating		Standard Length		Weight	
	kPa	psi	°C	°F	m	ft	kg/m	lb/ft
CL-440	18,070	2620	82	180	19	62	13	9
CL-648	14,740	2140	82	180	19	62	24	16
CL-671	21,810	3160	82	180	19	62	34	23
CL-856	9,930	1440	82	180	19	62	38	25

IV. Dimensions

Series	Steel outside diameter		Steel thickness		Liner inside diameter		Liner thickness		Clickweld® Outside Diameter	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
CL-440	114.3	4.500	4.0	0.156	94.7	3.73	5.8	0.23	152	5.98
CL-648	168.3	6.625	4.8	0.188	146	5.75	6.3	0.25	210	8.25
CL-671	168.3	6.625	7.1	0.280	141	5.58	6.1	0.24	220	8.66
CL-856	219.1	8.625	5.6	0.220	191	7.52	8.3	0.33	273	10.75



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V. Hydraulics

Hazen-Williams Coefficient	150
Darcy-Weisbach Surface Roughness	0.0015 mm (0.000005 ft)
Manning	0.009
Maximum flow velocity	4 m/s (13.2 ft/s)

Product	Max. Flow Rate	
	m3/day	bbl/day
-		
CL-440	2,600	16,000
CL-648	5,800	36,000
CL-671	5,500	34,000
CL-856	9,900	62,000

VI. Performance Parameters

Aromatics	Suitable for up to 25% aromatics up to 60 ⁰ C (140 ⁰ F)
Methanol	Suitable for saturated methanol up to 60 ⁰ C (140 ⁰ F)
Vacuum	Resistant to full vacuum (-100 kPa(g) or -14.5 psig) at 80 ⁰ C (176 ⁰ F) for 30 minutes
Buckling	Liner buckling pressure of 480 kPa (70 psi) at 20 ⁰ C (68 ⁰ F) for a 24 hrs duration

VII. Service Envelope

Fluid	Conditions
Water	Up to the maximum pressure rating, up to 82 ⁰ C (180 ⁰ F)
Liquid Hydrocarbons	Up to the maximum pressure rating, up to 60 ⁰ C (140 ⁰ F)
Multiphase (with gas)	Up to 3500 kPa (500 psi), up to 40 ⁰ C (104 ⁰ F)
Sour Liquids/multiphase	For CL-648 & CL-856:
	ANSI 300 service: any H ₂ S partial pressure and any pH
	ANSI 600 service: H ₂ S partial pressure <= 100 kPa (14.5 psi) & a pH >= 5.5
	ANSI 600 service: H ₂ S partial pressure <= 10 kPa (1.45 psi) & a pH of 4.5 to 5.5
	For CL-440 & CL-671:
	All ANSI classes: H ₂ S partial pressure <= 100 kPa (14.5 psi) & a pH >= 5.5
Sweet gas	Up to 3500 kPa (500 psi), up to 40 ⁰ C (104 ⁰ F)

Note: the product performance is dependent on the actual service parameters. Consult CORE Linepipe for a project specific evaluation of suitability.