

# Product Data Sheet



Revision Date: April 12, 2022

CORE LINEPIPE

## GENERAL

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

## MATERIALS

<b>Pipe</b>	ERW CSA Z245.1 Grade 359 Category 2 M45C Sour Service or API mechanical interference fit
<b>Flange</b>	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 Z245.12 359 Category 2 M45C Sour Service for 4" ANSI 900 & 1500, 6" ANSI 900 & 1500, and 8" ANSI 600
<b>TOL</b>	1/2" MSS SP-97 Class 3000 or 6000 NPT Threaded and Socket Welded, ASTM A350 LF2 Class 1
<b>ClickWeld Parts</b>	API 5CT L80 Type 1
<b>Elbow</b>	Shop or field cold bent pipes, minimum 20 x D
<b>Riser</b>	Shop or field cold bent pipes, minimum 20 x D
<b>Liner</b>	Bi-modal high density polyethylene PE4710 DR25 with a minimum PENT > 2000 hrs
<b>EF Fitting</b>	Bi-modal high density polyethylene PE100+ with a minimum PENT > 2000 hrs
<b>Pipe Coating</b>	Shawcor Yellow Jacket up to 60°C (140°F) and YJ2K up to 82°C (180°F)
<b>Joint Protection</b>	Field applied shrink sleeves or WrapidBond®

## PRODUCT RANGE

Series	Maximum Pressure Rating		Maximum Temperature Rating		Standard Length		Weight	
	kPa	psi	°C	°F	m	ft	kg/m	lb/ft
<b>CL440</b>	18,070	2620	82	180	19	62	13	9
<b>CL648</b>	14,740	2140	82	180	19	62	24	16
<b>CL671</b>	21,810	3160	82	180	19	62	34	23
<b>CL856</b>	9,930	1440	82	180	19	62	38	25

## DIMENSIONS

Series	Steel outside diameter		Steel thickness		Liner inside diameter		Liner thickness		ClickWeld® OD	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
CL440	114.3	4.500	4.0	0.156	94.7	3.73	0.23	0.23	152	5.98
CL648	168.3	6.625	4.8	0.188	146	5.75	6.3	0.25	210	8.25
CL671	168.3	6.625	7.1	0.280	141	5.58	6.1	0.24	220	8.66
CL856	219.1	8.625	5.6	0.220	191	7.52	8.3	0.33	273	10.75

## HYDRAULICS

Hazen-Williams Coefficient	150	Product	Max. Flow Rate	
Darcy-Weisbach Surface Roughness	0.00015mm (0.000005 ft)	-	m3/day	bbl/day
Manning	0.009	CL440	2,600	16,000
Maximum Flow Velocity	4m/s (13.2 ft/s)	CL648	5,800	36,000
		CL671	5,500	34,000
		CL856	9,900	62,000

## PERFORMANCE PARAMETERS

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

## SERVICE ENVELOPE

Fluid	Conditions
Water	Up to the maximum pressure rating, up to 82°C (180°F)
Liquid Hydrocarbons	Up to the maximum pressure rating, up to 60°C (140°F)
Multiphase (with gas)	Up to 3500 kPa (500 psi), up to 40°C (104°F)
Sour Liquids/Multiphase	For CL648 & CL856
	ANSI 300 service: any H2S partial pressure and any pH
	ANSI 600 service: H2S partial pressure ≤ 100 kPa (14.5 psi) & a pH ≥ 5.5
	ANSI 600 service: H2S partial pressure ≤ 10 kPa (1.45 psi) & a pH of 4.5 to 5.5
	For CL440 & CL671
	For all ANSI classes: H2S partial pressure ≤ 100 kPa (14.5 psi) & a pH ≥ 5.5
Sweet Gas	Up to 3500 kPa (500 psi), up to 40°C (104°F)