

Mill Test Certificate

2125-64 Avenue, Edmonton, AB Canada T6P 1Z4 Bri-Steel Manufacturing Inc.

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Product: Seamless Carbon Steel Pipe

> Product Heat Number: BSM-2074

Product Size: 24S60

Production Date: Oct 01, 2014

Production Method: **Hot Expansion**

Product Heat Treatment: As-rolled

Certificate No.: MTR- 001403

Product Markings

Product Standards:

<API & L/C No.> API SPEC 5L NPS 24 SCH 60 0.969 INCHWT GR B PSL1 SMLS 2014/10 NDE 1900PSI

ASME B36.10-2004, API 5L-45th Ed. Grade B PSL1, ASTM/ASME A/SA106-2014 Grade B NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

HEAT BSM-2074 (PIPE # LENGTH MASS) 238.1lb/ft ASTM/ASME A/SA106 GR B A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

	BSM-2074		Heat	
	Heat		Test Type	
	NPS 24 SCH 60 0.969in. WT		Product Size	Product: Details
	4		Pieces	
	DRL		Length	
	238.1	lb/ft	Mass	
	5	μR/hr	Geiger	
	<10	Gauss	Res. Mag.	
	Pass	Insp.	Visual	
	Pass		OD	Z
	Pass	WT	TU	Non-Destructive Testing
	Pass	ASTM E213 ASTM	TU	tive Testing
	Pass	ASTM	ET	
	Pass	1900 PSI/ 5 s Condition	HydroTest	
The second secon	Plain End	s Condition	End	

			BSM-	Ĩ	
			BSM-2074	Heat	
		Cegas, any since	Blast Furnace; EAF; Ladle Refining; Vacuum	Steelmaking Method	
20 A20		Product 0.19	Heat	Test Type	
	ė.	0.19	0.19	С	
		0.84	0.85	Mn	
		0.84 0.007 0.006 0.23	0.85 0.008 0.008 0.22	Р	
Mechanio		0.006	0.008	S	Chemical Analysis (wt%)
Mechanical Properties		0.23		Si	Analysis (v
ties		0.04	0.04	Cr	Nt%)
		0.07	0.07	Cu	
		0.01	0.01	Mo	
		0.03	0.03	Ni	
		0.003		٧	
		0.001		Ti	
		0.001		Nb	
		0.0002 0.34	0.0003	В	
		0.34	1	CE(IIW) CE(CSA	
		0.34	-	CE(CSA)	

BSM-2074		Heat	BSM-2074		Heat	
1	Standard	Test	Heat		Test Type	
			Ferrite & Pearlite		Microstructure	
ı	Impact Test Sample Details		73 HRBW		Hardness	
	°C	Temp	Pass		Flattening Test	
ı	J		Lo			
ı	J	Impact Energy	Impact	Longitudinal; 19.05 mm	50	Ten
	J		l; 19.05 r	50mm GL	Tension Test	
,	AVG		nm x WT			
	%	% Shear			Y:	
	%		40,300	psi	Yield (Rt0.5)	
t	%		ear	99		Tens
Ĺ	AVG		69,000	psi	Tensile (Rm)	
·	mm	Lateral Expansion	0.58	(Rt0.5/Rm)	۲/۲	
ı	mm		Lateral Expansion		(m)	
	mm			46	%	Elongation (A)
ı.	AVG		,		on (A)	

Additional Details:

We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008 and API Q1. API 5L-45th Ed., ASTM/ASME A/SA106-2014 Grade B A/SA53-2012, and the purchase order requirements, and that the results meet the

√ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex A2 for Region 3 Sour Service-2009 NACE MR0103-2010 Section 2.1

✓ No weld repairs have been performed on this product.

√ This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.

 \checkmark This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Tonya Lam, C.E.T.

Mill Test Certificate approved by:

Assistant QA Manager