

## Mill Test Certificate

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

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www.bri-steel.com

Product: Seamless Carbon Steel Pipe

Production Method:

Hot Expansion

Product Heat Number:

BSM-2035 Product Size: 24T40

Production Date: Sep 24, 2014

**Product Heat Treatment:** As-rolled

Certificate No.: MTR- 001365

**Product Standards:** ASME B36.10-2004, ASTM/ASME A/SA106-2014 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

**Product Markings** 

NPS 24 TRUE 40 0.688 INCHWT SMLS 2014/09 NDE 1400PSI

HEAT BSM-2035 (PIPE # LENGTH MASS) 171.2lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

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DOINT-COOL	35UC-1/138			Heat		
licar	Heat		The state of the s	Test Type		
INFO 24 INOL 40 0.000mil. WI	T/W 4:889 U UV 31 IAT VC SAIN			Product Size		Product: Details
-				Pieces		
סויר	ופת			Length		
7.1.1.	171 )	ın/m	F /6	Mass		
6	'n	µK/nr		Geiger	0.00	
\T0	/10	Gauss	0	Res. Mag.		
1 033	Dace	insp.	1	Visual		
1 033	Dass			00		No
1 033	Dace	W -	F	TU		on-Destruc
1 033	Dacc	ASIM EZ13 ASIM	ACTA LOAD	GT.		Non-Destructive Testing
1 033	Dacc	ASTIVI	ACTA	ET		
1 033	Dace	1400PSI/ 5 s	1	HydroTest		
י ומווי רוומ	Disin End	s condition	Chilitins	End		

0.36	0.36	0.0003	0.001	0.001	0.002	0.04	0.01	0.07	0.05	0.26	0.009	0.012	0.87	0.20	Product	Degas; rully killed	
t		0.0003				0.04	0.01	0.06	0.05	0.27	0.008	0.012	0.88	0.19	Heat	Blast Furnace; EAF; Ladle Refining; Vacuum	BSM-2035
CE(CSA)	CE(IIW)	В	Nb	Ti	<	Z:	Mo	Cn	Cr	Si	S	P	Mn	С	Test Type	Steelmaking Method	Heat
									(wt%)	Analysis	Chemical Analysis (wt%)						

			_
BSM-2035		Heat	
Heat		Test Type	
Ferrite & Pearlite		Microstructure	
79 HRBW		Hardness	
Pass		Flattening Test	
Longitudinal; 38.1 mm x WT	50mm GL	Tension Test	Mechanical Properties
42,900	psi	Yield (Rt0.5)	
70,000	psi	Tensile (Rm)	
0.61	(Rt0.5/Rm)	٧/٦	
45	%	Elongation (A)	
	Ferrite & Pearlite 79 HRBW Pass Longitudinal; 38.1 mm x WT 42,900 70,000	Heat         Ferrite & Pearlite         79 HRBW         Pass         Longitudinal; 38.1 mm x WT         42,900         70,000         0.61         4	Test Type Microstructure Hardness Flattening Test 50mm GL psi (Rt0.5) Tensile (Rm) Y/T Elonga psi (Rt0.5/Rm)  Heat Ferrite & Pearlite 79 HRBW Pass Longitudinal; 38.1 mm x WT 42,900 70,000 0.61

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AVG	mm	mm	mm	AVG	%	%	%	AVG	J	Ĵ	Ĺ	ငိ	Sample Details	Standard	
	xpansion	Lateral Expans			hear	% Shea	0 0		Energy	Impact		Temp	Impact Test	Test	Heat

## Additional Details:

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

Mill Test Certificate approved by:

√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.

 $\checkmark$  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.

1, lam sept /26/2014

Assistant QA Manager