

Product:

Seamless Carbon Steel Pipe

Product Heat Number:

BSM-1682

Product Size: NPS 14 TRUE 40

Hot Expansion

Mill Test Certificate

2125-64 Avenue, Edmonton, AB Canada T6P 1Z4 Bri-Steel Manufacturing Tel: 001 (780) 469-6603

Fax: 001 (780) 469-6986 www.bri-steel.com

Production Date: Mar 03, 2014

Product Heat Treatment: ThermoMechanical Formed Certificate No.: MTR- 002061

ASME B36.10M-2015, ASTM/ASME A106-2014/SA106-2013 Grade B/C NDE, A53-2012/SA53-2013 Grade B Type S, NACE MR0175-2009 MR0103-2012

Product Markings

Product Standards: Production Method:

NPS 14 TRUE 40 0.438 INCHWT SMLS 2014/03 NDE

HEAT BSM-1682 (PIPE # LENGTH MASS) 63.67Ib/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

	Т	Т	m	_		_
BSM-1682	Heat		BSM-1682		Heat	
Blast Furnace; EAF	Ste		Heat		Test Type	
Blast Furnace; EAF; Ladle Refining; Vacuum	Steelmaking Method		NPS 14 TRUE 40 0.438in. WT		Product Size	Product: Detail
Heat	Test Type		n. WT		- P	tails
0.20	C		6		Pieces	
0.87	Mn		DRL		Length	
0.015	P		63.67	lb/ft	Mass	
0.004	S	Chemical Analysis (wt%)	~	μR/hr	Geiger	
0.25	Si	nalysis (^		10000	
0.06	숙	wt%)	<10	Gauss	Res. Mag.	
0.06	Cu		Pass	insp.	Visual	
0.01	Mo		Pass		8	z
0.04	N:		Pass	M	닼	Non-Destructive Testing
•	٧		Pass	ASTM E	TU	ctive Test
	Ti			213 AS		ìng
	Иb		Pass	ASTM E213 ASTM E309	ET	
0.0002 0.37	В		1		HydroTest	
0.37	CE(IIW)		(3	0	ist	
0.37	CE(IIW) CE(CSA)		33° Bevel	Condition	End	

Product

0.21

0.86

0.012

0.003

0.25

0.05

0.07

0.01

0.04

0.003

0.001

0.001

0.0002

0.37

0.38

	BSM-1682		Heat	
	Heat		Test Type	
	Ferrite & Pearlite		Microstructure	
	77 HRBW		Hardness	
	Pass		Flattening Test	
	Longitudinal; 1.5 in. x WT	2 in. GL	Tension Test	Mechanical Properties
	43,500	psi	Yield (Rt0.5)	
	73,000	psi	Tensile (Rm)	
	0.60	(Rt0.5/Rm)	Υ/Τ	
	46	%	Elongation (A)	

BSM-1682		Heat
*	Standard	Test
	Sample Details	Impact Test
F	റ്	Temp
,	L	
,	۲.	Impact E
,	_	Energy
,	AVG	
1	%	
r	%	% Shear
1	%	lear
	AVG	
,	mm	
1	mm	Lateral Ex
,	mm	pansion
3	AVG	

Additional Details:

✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing in accordance with ASTM/ASME A106-2014/SA106-2013, A53-2012/SA53-2013, and the purchase order requirements, and that the results meet the corresponding requirements. Bri-Steel Manufacturing is registered and certified to ISO-9001:2008, API Q1, and PED 97/23/EC.

√ This pipe product meets the sour service requirements of NACE MR0175/ISO 15156-2:2009 Annex AZ for Region 3 Sour Service , and NACE MR0103-2012 Section 2.1

 \checkmark No weld repairs have been performed on this product.

 \checkmark This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1. \checkmark This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.

1. Jam

Mill Test Certificate approved by:

Tonya Lam, C.E.T.

Assistant QA Manager



Mill Test Certificate

Bri-Steel Manufacturing Inc.

2125-64 Avenue, Edmonton, AB Canada T6P 1Z4

Fax: 001 (780) 469-6986 Tel: 001 (780) 469-6603

www.brichemsteel.com

Product: Seamless Carbon Steel Pipe

Product Heat Number:

BSM-1682 Product Size: 14XS

Production Date:

Certificate No.: MTR- 000932 Mar 03, 2014

Product Standards: Production Method: ASME B36.10-2004, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010 Hot Expansion **Product Heat Treatment:** As-rolled

Product Markings

							CONTRACTOR	ST. OF STREET, ST. OF ST. OF ST.						
32.5° Bevel	1	Pass	Pass	Pass	Pass	Pass	<10	Ġ	72.09	DRL	6	NPS 14 XS 0.500in. WT	Heat	BSM-1682
Condition		ASTM	ASTM E213 ASTM	TW		Insp.	Gauss	μR/hr	lb/ft					
End	HydroTest	日	T	TU	8	Visual	Res. Mag.	Geiger	Mass	Length	Pieces	Product Size	Test Type	Heat
			tive Testing	Non-Destructive Testin	No							Product: Details		

	BSM-1682	Heat	
		Ť	
Degas; Fully Killed	Blast Furnace; EAF; Ladie Refining; Vacuum	Steelmaking Method	
Product	Heat	Test Type	
0.21	0.20	С	
0.86	0.87	Mn	
6 0.012	0.015	Ρ	
0.003 0.25	0.004	S	Chemical
0.25	0.25	Si	Chemical Analysis (wt%
0.05	0.06	Ç	wt%)
0.07	0.06	Си	
0.01	0.01	Mo	
0.04	0.04	Z	
0.003		<	
0.001		#	
0.001		S.	
0.0002	0.0002	æ	
0.37	1	CE(IIW)	
0.37	,	CE(CSA)	

46	0.60	73,000	43,500	Longitudinal; 38.1 mm x WT	Pass	77 HRBW	Ferrite & Pearlite	Heat	BSM-1682
%	(Rt0.5/Rm)	psi	psi	50mm GL					
Elongation (A)	۲/۲	Tensile (Rm)	Yield (Rt0.5)	Tension Test	Flattening Test	Hardness	Microstructure	Test Type	Heat
Account to the second s				Mechanical Properties	•				

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			1	1	ı	,			1	•	î	•	1	BSM-1682
% W AVG mm mm mm	% AVG mm	% AVG	%	% %	%	%	AVG	J	ſ	J	ో	Sample Details	Standard	
% Shear Lateral Expans	Latera	% Shear	% Shear	% Shear	% St			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 ASTM/ASME A/SA106-2013 Grade B/C A/SA53-2012, and the purchase order requirements, and that the results meet the corresponding requirements.

√ 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

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

Mill Test Certificate approved by:

Sanden 2014 MAR 6

Assistant QA Manager Paul Sowden, T.T.