

Mill Test Certificate

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

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

Product: Seamless Carbon Steel Pipe

Product Heat Number:

BSM-1886 Product Size: 18STD

Certificate No.: MTR- 001181 Production Date: Jun 11, 2014

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

Product Standards: Production Method:

NPS 18 STD 0.375 INCHWT SMLS 2014/06 NDE 1000PSI

TEXTURE HEAT BSM-1886 (PIPE # LENGTH MASS) 70.59Ib/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

	BSM-1886		Heat	
	Heat		Test Type	
	NPS 18 STD 0.375in. WT		Product Size	Product: Details
	2		Pieces	
	DRL		Length	
	70.59	lb/ft	Mass	
	ۍ	μR/hr	Geiger	
	<10	Gauss	Res. Mag.	
	Pass	Insp.	Visual	
	Pass		OĐ	No
	Pass	WT	In	Non-Destructive Testin
	Pass	ASTM E213 ASTM	UT	ive Testing
1000	Pass	ASTM	ET	
	Pass	1000 PSI/ 5 s	HydroTest	
	32.5° Bevel	s Condition	End	

Г		00	Т	Т
		BSM-1886	Heat	
	negas, rully Nillen	Blast Furnace; EAF; Ladle Refining; Vacuum	Steelmaking Method	
Product	,	Heat	Test Type	
17.0		0.19	C	
0.88		0.85	Mn	
0.026		0.015	ъ	
0.012		0.008	S	Chemical Analysis (wt%
0.24		0.24	Si	Analysis (
0.08		0.06	ç	wt%)
0,01		0.01	Си	
0.01			Mo	
0.04		0.04	Ni	
0.005			٧	
0.005			TI	
0.001			Nb	
0.0004			В	
0.38			CE(IIW)	
0.38		,	CE(CSA)	

40	0.62	73,000	45,500	Longitudinal; 38.1 mm x WT	Pass	77 HRBW	Ferrite & Pearlite	Heat	BSM-1886
%	(Rt0.5/Rm)	psi	psi	50mm GL					
Elongation (A)	٧/٦	Tensile (Rm)	Yield (Rt0.5)	Tension Test	Flattening Test	Hardness	Microstructure	Test Type	Heat
				Mechanical Properties	7				

BSM-1886		Heat
1	Standard	Test
1	Sample Details	Impact Test
	റ്	Temp
1	<u>. </u>	
	٦	Impact
ı	J	Energy
-	AVG	
	%	
,	%	% Shear
	%	ear
·	AVG	
1	mm	
,	mm	Lateral Ex
,	mm	pansion
ı	AVG	

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.

Mill Test Certificate approved by:

No weld repairs have been performed on this product.

√ 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

 \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.

Assistant QA Manager

Tonya Lam, C.E.T.

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TICKUIZUUGURANNE HEAT BSM-1886 (PIPE # LENGTH MASS) 70.59Ib/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

	Product: Details							No	Non-Destructive Testing	ive Testing		
Heat Test Type F	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	8	UŢ	UT	ET	HydroTes
				lb/ft	µR/hr	Gauss	insp.		WT	ASTM E213	ASTM	1000 PSI/
BSM-1886 Heat NPS 18	NPS 18 STD 0.375in. WT	2	DRL	70.59	\$	<10	Pass	Pass	Pass	Pass	Pass	Pass

							78 150										
0.38	0.38	0.0004	0.001	0.005	0.005	0.04	0.01	0.01	0.08	0.24	0.012	0.026	0.88	0.21	Product	Crebas, this which	
ı	٠					0.04		0,01	0.06	0.24	0.008	0.015	0,85	0.19	Heat	Blast Furnace; EAF; Ladle Refining; Vacuum	BSM-1886
CE(CSA)	CE(IIW)	В	dN	∄	٧	Ni	Mo	Си	Ç	Si	S	P	Mn	C	Test Type	Steelmaking Method	Heat
									W(%)	iicai Anaiysis (wt%	Chemical						

p			1	BS			Г	***********
BSM-1886		Heat		BSM-1886		Heat		
•	Standard	Test		Heat		Test Type		
				Ferrite & Pearlite		Microstructure		
_	Sample Details	Impact Test		77 HRBW		Hardness		
	°C	Temp		Pass		Flattening Test		
	J						Mecha	
	J	Impact Energy		Longitudinal; 38.1 mm x WT	50	Ten	Mechanical Properties	
	_	Energy		վ; 38.1 π	50mm GL	Tension Test	rties	
	AVG			ım x WT		-		
	%					Ϋ́		
	%	% Shear		45,500	psi	Yield (Rt0.5)		
	%	ear		73		Tens		
	AVG		1000 Day	73,000	psi	Tensile (Rm)		
	mm			0.62	(Rt0.5/Rm	Υ,	9500	
r	mm	Lateral E		2	(Rm)	7		
	mm	Lateral Expansion		40	%	Elongation (A)		
	AVG			,		on (A)		

BSM-1886		Heat
A A	Standard	Test
ı	Sample Details	Impact Test
1	ů	Temp
ŧ	J	
,	J	Impact
	L	Energy
	AVG	
£	%	
,	%	% Shea
,	%	ear
1	AVG	
ť	mm	
r	mm	Lateral Ex
-	mm	cpansion
3	AVG	

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