



Mill Test Certificate

Bri-Steel Manufacturing
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1682 Product Size: NPS 14 TRUE 40 Production Date: Mar 03, 2014
Production Method: Hot Expansion Product Heat Treatment: ThermoMechanical Formed Certificate No.: MTR- 002061
Product Standards: 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



NPS 14 TRUE 40 0.438 INCHWT SMLS 2014/03 NDE
HEAT BSM-1682 (PIPE # LENGTH MASS) 63.67lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product Details					Non-Destructive Testing									
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geliger $\mu R/hr$	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest	End Condition
BSM-1682	Heat	NPS 14 TRUE 40 0.438in. WT	6	DRL	63.67	<5	<10	Pass	Pass	Pass	Pass	Pass	-	33° Bevel

Steelmaking Method		Chemical Analysis (wt%)													
Heat	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW) CE(CSA)
BSM-1682	Blast Furnace, EAF, Ladle Refining, Vacuum Degass, Fully Killed	Heat	0.20	0.87	0.015	0.004	0.25	0.06	0.06	0.01	0.04	-	-	0.0002	0.37
	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

Mechanical Properties					Tension Test					Yield (RT0.5)			Tensile (Rm)			Y/T (RT0.5/Rm)		Elongation (A)	
Heat	Test Type	Microstructure	Hardness	Flattening Test	2 in. GL	1.5 in. x WT	psi	psi	psi	psi	psi	psi	psi	psi	psi	mm	mm	%	%
BSM-1682	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal	43,500	73,000	0.60	46										

Heat		Test Standard		Impact Test Sample Details		Temp °C		Impact Energy				% Shear				Lateral Expansion			
BSM-1682		-		-		-		J	J	J	AVG	%	%	%	AVG	mm	mm	mm	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 A2 for Region 3 Sour Service, and NACE MR0103-2012 Section 2.1

✓ No weld repairs have been performed on this product.

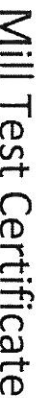
✓ This product has not come into contact with mercury during the Bri-Steel Manufacturing processes.

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

Mill Test Certificate approved by:

T. Lam Jan 12/2016

Tonya Lam, C.E.T.
Assistant QA Manager



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91lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Chemical Analysis (wt%)																		
Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)	
		Heat	0.20	0.87	0.015	0.004	0.25	0.06	0.06	0.01	0.04					0.0002	-	-
		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	0.37	
BSM-1682	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed																	

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

Assistant QA Manager

2014 MAR 6