



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1999 Product Size: 30STD Production Date: Sep 02, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001314
Product Standards: ASME B36.10-2004, ASTM/ASME A/SA333-2013 Grade 6 L(TM45C) A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings



NPS 30 STD 0.375 INCHWT SMIS 2014/09 NDE 1180PSI
HEAT BSM-1999 (PIPE # LENGTH MASS) 118.6lb/ft ASTM/ASME A/SA333 GR 6 L(TM45C) 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	Geiger μR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest 1180 PSI/ 5 s	End Condition
BSM-1999	Heat	NPS 30 STD 0.375in. WT	6	DRL	118.6	<5	<15	Pass	Pass	Pass	Pass	Pass	Pass	32.5° Bevel

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	0.17	1.14	0.019	0.002	0.31	0.01	0.02	0.01	0.01	0.060				-
		Product	0.19	1.13	0.019	0.003	0.30	0.10	0.03	0.01	0.05	0.055	0.002	0.001	0.0003	0.41	0.41
BSM-1999	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed																

Mechanical Properties													
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %				
BSM-1999	Heat	Ferrite & Pearlite	85 HRBW	Pass	Longitudinal; 38.1 mm x WT	56,500	77,500	0.73	40				

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion			
BSM-1999	ASTM A333	CVN Long 10 x 8 mm	-45	J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
				64.5	22.0	35.0	40.5	45	0	15	20	0.52	0.10	0.70	0.44

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/SA333-2013 Grade 6 L(TM45C) 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:

✓ 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.

T. Lam *Sept 09 / 2014*

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

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