



# Mill Test Certificate

Bri-Steel Manufacturing  
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Product: Seamless Carbon Steel Pipe      Product Heat Number: BSM-2468      Product Size: NPS 30 STD      Production Date: Jul 13, 2015  
Production Method: Hot Expansion      Product Heat Treatment: ThermoMechanical Formed      Certificate No.: MTR- 001881  
Product Standards: ASME B36.10-2004, 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 30 STD 0.375 INCHWT SMLS 2015/07 NDE 600PSI  
HEAT BSM-2468 (PIPE # LENGTH MASS) 118.6lb/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 600 PSI/ 5 s	End Condition
BSM-2468	Heat	NPS 30 STD 0.375in. WT	3	DRL	118.6	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	32.5° Bevel

Heat		Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-2468	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed		Heat	0.17	1.21	0.016	0.004	0.29	0.03	0.01	0.01	0.01	0.050	0.001	0.001	0.0005	0.39	0.39
			Product	0.17	1.24	0.016	0.003	0.30	0.03	0.01	0.01	0.01	0.053	0.003	0.001	0.0004	0.40	0.40

## Chemical Analysis (wt%)

Heat		Test Type	Microstructure	Hardness	Flattening Test	Tension Test 2 in. GL		Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-2468	Heat	Heat	Ferrite & Pearlite	80 HRBW	Pass	Longitudinal; 1.5 in. x WT		52,500	73,000	0.72	40

## Mechanical Properties

Heat	Test	Standard	Impact Test Sample Details	Temp °C	Impact Energy				% Shear				Lateral Expansion			
					J	J	J	AVG	%	%	%	AVG	mm	mm	mm	AVG
BSM-2468	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## 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 and API Q1.

✓ 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:

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

*T. Lam* *July 12/2015*