



Bri-Steel Manufacturing Inc.

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## Mill Test Certificate

Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0786** Product Size: **NPS 14 STD** Production Date: **March 25, 2013**

Production Method: **Hot Expansion** Product Heat Treatment: **As-rolled**

Product Standards: **ASME B36.10-2004, ASTM/ASME A/SA106-2011 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009, MR0103-2010**

Product Markings: **.BRI-STEEL MFG ASTM/ASME A/SA106 GR B/C A/SA53 GR B NPS 14 STD 0.375 inchWT HEAT BSM-0786 (PIPE # LENGTH MASS) 54.57lb/ft NDE SMLS NACE MR0175 2013/03 MADE IN CANADA.**

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0786	Heat	NPS 14 STD 0.375 in WT	9	DRL	lb/ft	µR/hr	Gauss	Insp.	Pass	Pass	ASTM E213	ASTM E309	Pass	Condition
					54.57	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	37.5° Bevel

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis															
		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B			
		CE (IIW)	CE (CSA)														
BSM-0786	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	Heat	0.22	0.92	0.016	0.003	0.34	0.06	0.07	0.01	0.03	0.004	0.002	0.001	0.0001	-	-
		Product	0.21	0.91	0.016	0.007	0.32	0.06	0.07	0.01	0.03	0.003	0.002	0.001	0.0002	0.38	0.39

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness HRBW	Tension Test		Yield (Rt0.5) psi	Yield (Rp0.2) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
				50mm GL						
				Transverse: 38.1mm x WT	Longitudinal: 38.1mm x WT					
BSM-0786	Heat	Ferrite & Pearlite	77	Pass	Pass	42,400	40,700	72,000	0.59	39
						43,600	43,400	71,500	0.61	43

**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/SA106-2011, 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, and 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:

*Kent Dechant*  
 2013 APR 1  
 Kenton Dechant, P. Eng.  
 Manager of Quality and R&D