



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0008** Product Size: **NPS 24 STD** Production Date: **2011 Aug 10**

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

Product Standards: **ASTM/ASME A/SA106-2010 Grade B, NACE MR0175-2003**

Product Markings: **.BRI-STEEL MFG NPS 24 STD ASTM/ASME A/SA106 GR B HEAT BSM-0008 NDE 740 PSI NACE MR0175-03 2011/09 MADE IN CANADA.**

Product Details						Non-Destructive Testing								
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Gelger	Res. Mag.	Visual	UT	UT	ET	HydroTest	End
BSM-0008	Heat	24	STD	2	DRL	94.62	µR/hr	Gauss	Insp.	Pass	Pass	Pass	740 psi/5s	Condition
							<5	<20	Pass	Pass	---	Pass	Pass	37.5° Bevel

Chemical Analysis (wt%)																		
Heat	Test Type	Steelmaking Method		C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0008	Heat	Blast Furnace; EAF; Ladle Refining; Vacuum Degass		0.19	0.85	0.014	0.007	0.24	0.04	0.11	0.02	0.03	0.002	0.001	0.004	0.0001	0.35	0.36

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rp0.5)	Yield (Rp0.2)	Tensile (Rm)	Elongation (A)
BSM-0008	Heat	Ferrite & Pearlite	HRB	Pass	Transverse; 50mm GL;	38mm x WT	psi	psi	psi	%
			76				46500	46500	74500	36

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected in accordance with ASTM/ASME A/SA106-2010 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ This pipe product meet the sour service requirements of NACE MR0175/ISO 15156-2003 Annex A2 for Region 3 Sour Service, and NACE MR0103-2004 Para. 2.1.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

Kent Dechant
 2012 July 9

Kenton Dechant, P. Eng.
 Manager of Quality and R&D