



# Mill Test Certificate

**Bri-Steel Manufacturing Inc.**  
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0088** Product Size: **NPS 24 STD** Production Date: **2011 Nov 4**

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

Product Standards: **ASTM/ASME A/SA106-2010 Grade B/C, A/SAS3-2010 Grade B Type S, NACE MR0175-2009**

Product Markings: **.BRI-STEEL MFG NPS 24 STD ASTM/ASME A/SA106 GR B/C A/SAS3 GR B HEAT BSM-0088 (PIPE # LENGTH MASS) NDE 740PSI NACE MR0175 2011/11 MADE IN CANADA.**

Product Details						Non-Destructive Testing									
Heat	Test Type	NPS	SCH	Pieces	Length	Mass	Geiger $\mu$ R/hr	Res. Mag. Gauss	Visual Insp.	OD Pass	UT WT Pass	UT ASTM E213	ET ASTM E309	HydroTest 740 psi/5s	End Condition
BSM-0088	Heat	24	STD	1	DRL	2990 LB	<5	<20	Pass	Pass	Pass	---	Pass	Pass	37.5° Bevel

		Chemical Analysis (wt%)																				
Heat	Test Type	Steelmaking Method																				
		Blast Furnace; EAF; Ladle Refining; Vacuum Degass						C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
BSM-0088	Heat							0.20	0.86	0.011	0.004	0.26	0.03	0.11	0.03	0.04	0.002	0.001	0.001	0.0002	0.36	0.37

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test		Yield (Rt0.5) psi	Yield (Rp0.2) psi	Tensile (Rm) psi	Elongation (A) %
					50mm GL, 38mm x WT	Transverse				
BSM-0088	Heat	Ferrite & Pearlite	78	Pass	Longitudinal		47,500	48,100	75,500	37

**Additional Details:**

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected in accordance with ASTM/ASME A/SA106-2010, A/SAS3-2010 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 15156-2:2009 Annex A2 for Region 3 Sour Service, and NACE MR0103-2010 Section 2.1.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

  
 2011 Nov 18  
 Kenton Dechant, P.Eng.  
 Manager of Quality and R&D