



# Mill Test Certificate

**Bri-Steel Manufacturing Inc.**  
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0264** Product Size: **NPS 18 XS** Production Date: **March 20, 2012**

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

Product Standards: **ASTM/ASME A/SA106-2011 Grade B/C, A/SA53-2010 Grade B Type S, NACE MR0175-2009**

Product Markings: **.BRI-STEEL MFG NPS 18 XS ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0264 (PIPE # LENGTH MASS) NDE 1370PSI NACE MR0175 2012/03 MADE IN CANADA.**

Product Details						Non-Destructive Testing									
Heat	Test Type	NPS	SCH	Pieces	Length	Mass lb/ft	Geiger $\mu$ R/hr	Res. Mag. Gauss	Visual Insp.	OD Pass	UT WT Pass	UT ASTM E213	ET ASTM E309	HydroTest 1370 psi/5s	End Condition
BSM-0264	Heat	18	XS	3	DRL	93.45	<5	<20	Pass	Pass	Pass	---	Pass	Pass	37.5° Bevel


Steelmaking Method		Chemical Analysis (wt%)														
Heat	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
BSM-0264	Heat	0.20	0.87	0.010	0.004	0.22	0.03	0.08	0.01	0.03	0.004	0.001	0.001	0.0001	0.36	0.37
Blast Furnace: EAF; Ladle Refining; Vacuum Degass																

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test		Yield (Rt0.5) psi	Yield (Rp0.2) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-0264	Heat	Ferrite & Pearlite	74	Pass	50mm GL, 38mm x WT	Transverse	42,900	40,900	71,500	0.60	41
					Longitudinal		41,900	41,400	70,000	0.60	46

**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/SA53-2010 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.
- ✓ No weld repairs have been performed on this product. This product has no mercury contamination.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:

  
 2012 MAR 28  
 Kenton Dechant, P. Eng.  
 Manager of Quality and R&D