



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0032** Product Size: **NPS 24 0.750** Production Date: **2011 Sept 15**

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

Product Standards: **ASTM/ASME A/SA106-2010 Grade B, A/SA53-2010 Grade B Type S, NACE MR0175-2003**

Product Markings: **.BRI-STEEL MFG NPS 24 0.750 ASTM/ASME A/SA106 GR B HEAT BSM-0032 (PIPE # LENGTH MASS) NDE 1300 PSI NACE MR0175-03 2011/09 MADE IN CANADA.**

Product Details						Non-Destructive Testing								
Heat	Test Type	NPS	SCH	Pieces	Length	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 1300 psi/5s	End Condition
BSM-0032	Heat	24	0.750	6	DRL	<5	<20	Pass	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 (IIW)	CE (CSA)
BSM-0032	Heat	Blast Furnace; EAF; Ladle Refining; Vacuum Degass		0.19	1.01	0.012	0.002	0.21	0.05	0.02	0.01	0.02	0.001	0.001	0.006	0.0001	0.37	0.38

Mechanical Properties										
Heat	Test Type	Microstructure	Hardness HRB	Flattening Test	Tension Test Transverse; 50mm GL; 38mm x WT		Yield (Rt0.5) psi	Yield (Rp0.2) psi	Tensile (Rm) psi	Elongation (A) %
BSM-0032	Heat	Ferrite & Pearlite	78	Pass			55500	55500	71000	47

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected in accordance with ASTM/ASME A/SA106-2010, 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 15156-2003 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:

[Signature]
 2011 Sept 22

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