



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0124** Product Size: **NPS 16 STD** Production Date: **2011 Dec 01**

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

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

Product Markings: **.BRI-STEEL MFG NPS 16 STD ASTM/ASME A/SA106 GR B/C A/SA53 GR B HEAT BSM-0124 (PIPE # LENGTH MASS) NDE 1140PSI NACE MR0175 2011/11 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Test Type	NPS	SCH	Pieces	Length	Mass lb/ft	Gelger µR/hr	Res. Mag. Gauss	Visual Insp.	OD Pass	UT WT Pass	UT ASTM E213	ET ASTM E309	HydroTest 1140 psi/5s	End Condition
BSM-0124	Heat	16	STD	1	DRL	62.58	<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)	
		Blast Furnace; EAF; Ladle Refining; Vacuum Degass																	
BSM-0124	Heat			0.20	0.85	0.012	0.012	0.23	0.05	0.10	0.03	0.05	0.003	0.001	0.001	0.0003		0.36	0.37

Mechanical Properties																					
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test		Yield (Rp0.5) psi	Yield (Rp0.2) psi	Tensile (Rm) psi	Y/T (R0.5/Rm)	Elongation (A) %										
					Ferrite & Pearlite	78						Pass	50mm GL; 38mm x WT	Transverse	Longitudinal	47,600	46,700	75,500	0.63	47,800	47,400
BSM-0124	Heat																				

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/SA106-2010, 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 15156-2:2009 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 Feb 3
 Kenton Dechant, P. Eng.
 Manager of Quality and R&D