



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0734** Product Size: **NPS 24 STD** Production Date: **February 21, 2013**

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

Product Standards: **ASME B36.10-2004, API SL-44th Ed. Grade B PSL1, ASTM/ASME A/SA106-2011 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009, MR0103-2010**

Product Markings: **.BRI-STEEL MFG <API> SL-0898 API SL GR B PSL1 ASTM/ASME A/SA106 GR B/C A/SA53 GR B NPS 24 STD 0.375 INCHWT HEAT BSM-0734 (PIPE # LENGTH MASS) 94.62lb/ft NDE 740 PSI SMIS NACE MR0175 2013/02 MADE IN CANADA.**

Product Details				Non-Destructive Testing										
Heat	Test Type	Product Size	Pieces	Length	Mass	Gelger	Res.Mag.	Visual	OD	UT	UT	ET	HydroTest	End
BSM-0734	Heat	NPS 24 STD 0.375 in.WT	6	DRL	lb/ft	µR/hr	Gauss	Insp.	Pass	Pass	ASTM E213	ASTM E309	740 psi/5s	37.5° Bevel
					94.62	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	Condition


Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE	CE
BSM-0734	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Product	0.20	0.89	0.016	0.013	0.23	0.04	0.07	0.02	0.04	-	-	-	0.0003	-	-
			0.20	0.89	0.018	0.013	0.25	0.04	0.08	0.02	0.03	0.005	0.002	0.001	0.0003	0.37	0.38

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test		Yield (Rt0.5)	Yield (Rp0.2)	Tensile (Rm)	Y/T	Elongation (A)
					HRBW	Pass					
BSM-0734	Heat	Ferrite & Pearlite	76	Pass	Transverse; 38.1mm x WT	Longitudinal; 38.1mm x WT	45,100	46,500	72,500	0.64	41
							45,100	46,500	71,000	0.64	43

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API SL-44th Ed., ASTM/ASME A/SA106-2011, A/SA53-2012 and the purchase order requirements, and that the results meet the corresponding requirements.
- ✓ This pipe product meets 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 not come into contact with mercury during the Bri-Steel Manufacturing processes.
- ✓ This certificate represents a quality control system that is compliant with EN 10204:2004 Type 3.1.

Mill Test Certificate approved by:


 2013 Feb 28
 Kenton Dechant, P.Eng.
 Manager of Quality and R&D