



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0705** Product Size: **NPS 24 TRUE40** Production Date: **February 12, 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/SAA106-2011 Grade B/C NDE, A/SAS3-2012 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/SAA106 GR B/C A/SAS3 GR B NPS 24 TRUE40 HEAT BSM-0705 (PIPE # LENGTH MASS) 171.2lb/ft NDE 1370 PSI SMLS NACE MR0175 2013/02 MADE IN CANADA.**

Product Details				Non-Destructive Testing											
Heat	Test Type	NPS	Wall Thickness	Pieces	Length	Mass lb/ft	Geiger μ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 1370 psi/5s	End Condition
BSM-0705	Heat	24	TRUE40	1	DRL	171.20	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	Plain End

Chemical Analysis (wt%)																	
Heat	Steelmaking Method	Analysis	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
BSM-0705	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.20	0.99	0.015	0.003	0.30	0.05	0.06	0.01	0.03	0.003	0.002	0.001	0.0001	-	-
		Product	0.20	0.88	0.017	0.009	0.27	0.06	0.04	0.01	0.02	0.003	0.002	0.001	0.0001	0.37	0.37

Mechanical Properties														
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test					Yield (R _{0.5}) psi	Yield (R _{p0.2}) psi	Tensile (R _m) psi	Y/T (R _{0.5} /R _m)	Elongation (A) %
					50mm GL	Transverse; 38.1mm x WT	Longitudinal; 38.1mm x WT							
BSM-0705	Heat	Ferrite & Pearlite	79	Pass						33,900	42,000	72,500	0.47	51
										52,000	52,500	71,500	0.73	46

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/SAA106-2011, A/SAS3-2012 and the purchase order requirements, and that the product meets 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 20

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