



Mill Test Certificate

Bri-Steel Manufacturing Inc.
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Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0563** Product Size: **NPS 30 STD** Production Date: **November 21, 2012**

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

Product Standards: **ASME B36.10-2004, 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 ASTM/ASME A/SA106 GR B/C A/SA53 GR B NPS 30 STD HEAT BSM-0563 (PIPE # LENGTH MASS) 118.6lb/ft NDE 630 PSI SMIS NACE MR0175 2012/11 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 630 psi/5s	End Condition
BSM-0563	Heat	30	STD	26	DRL	118.60	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	37.5° Bevel

Steelmaking Method		Chemical Analysis (wt%)														
Heat	Blast Furnace; EAF; Ladle Refining; Vacuum Degas; Fully Killed	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE (IIW)	CE (CSA)
		0.18	0.89	0.017	0.009	0.24	0.03	0.08	0.02	0.04	-	-	-	-	0.0001	-
Product		0.22	0.87	0.010	0.012	0.22	0.03	0.08	0.02	0.03	0.002	0.001	0.001	0.0003	0.38	0.39

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 (Rt0.5/Rm)	Elongation (A) %
					50mm GL	Pass					
BSM-0563	Heat	Ferrite & Pearlite	76	Pass	Transverse: 38.1mm x WT	Longitudinal: 38.1mm x WT	43,700	42,200	71,500	0.61	44

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/SA53-2012 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:


 2012 NOV 21

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