



Bri-Steel Manufacturing Inc.
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Mill Test Certificate

Product: **Seamless Carbon Steel Pipe** Product Heat Number: **BSM-0962** Product Size: **NPS 24 TRUE40** Production Date: **June 4, 2013**

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

Product Standards: **ASME B36.10-2004, API 5L-44th Ed. Grade B PSL1, ASTM/ASME A/SAA106-2011 Grade B NDE, A/SAS3-2012 Grade B Type S, NACE MR0175-2009, MR0103-2010**

Product Markings: **BRI-STEEL MFG <API> 5L-0898 API 5L GR B PSL1 ASTM/ASME A/SAA106 GR B A/SAS3 GR B NPS 24 TRUE40 0.688 inchWT HEAT BSM-0962 (PIPE # LENGTH MASS) 171.2lb/ft NDE 1370 PSI SMILS NACE MR0175 2013/06 MADE IN CANADA.**

Product Details						Non-Destructive Testing								
Heat	Test Type	Product Size	Pieces	Length	Mass	Geiger	Res. Mag.	Visual	OD*	UT	UT	ET	HydroTest	End Condition
BSM-0962	Heat	NPS 24 TRUE40 0.688 in. WT	6	DRL	171.20	<5	<20	Pass	Pass	Pass	Pass	Pass	Pass	Plain End
								Insp.	WT	ASTM E213	ASTM E309		1370 psi/5s	

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-0962	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.19	0.89	0.007	0.003	0.23	0.04	0.07	0.02	0.05	-	-	-	0.0003	-	-
		Product	0.20	0.88	0.006	0.003	0.24	0.04	0.07	0.02	0.05	0.003	0.001	0.001	0.0001	0.37	0.37

Mechanical Properties											
Heat	Test Type	Microstructure	Hardness HRBW	Flattening Test	Tension Test	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %		
BSM-0962	Heat	Ferrite & Pearlite	74	Pass	50mm GL Longitudinal; 38.1mm x WT	42,500	66,500	0.64	51		
Heat	Test Standard	Impact Test Sample Details	Temp °C	J	Impact Energy	% Shear	AVG	mm	Lateral Expansion	mm	AVG
BSM-0962	-	-	-	-	-	-	-	-	-	-	-

Additional Details:

- ✓ We hereby certify that this pipe product was manufactured, sampled, tested and inspected by Bri-Steel Manufacturing Inc. in accordance with API 5L-44th Ed., ASTM/ASME A/SAA106-2011, A/SAS3-2012, 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:

Paul Sowden

2013 JUN 07

Paul Sowden, T.T.
 Assistant QA Manager

*OD Tolerances as per API