



## Mill Test Certificate

Bri-Steel Manufacturing Inc.  
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1709 Product Size: 16STD Production Date: Mar 18, 2014  
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR-000964  
Product Standards: ASME B36.10-2004, API 5L-45th Ed. Grade B/X42 PSL1, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

### Product Markings



<API & L/C No.> API SPEC 5L NPS 16 STD 0.375 INCHWT GR B/X42 PSL1 SMIS 2014/03 NDE 1680PSI  
HEAT BSM-1709 (PIPE # LENGTH MASS) 62.58lb/ft ASTM/ASME A/SA106 GR B/C A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

Product Details						Non-Destructive Testing								
Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geliger μR/hr	Res. Mag. Gauss	Visual Insp.	OD *	UT WT	UT ASTM E213	ET ASTM E309	HydroTest 1680PSI/ 5s	End Condition
BSM-1709	Heat	NPS 16 STD 0.375in. WT	26	DRL	62.58	<5	<10	Pass	Pass	Pass	Pass	Pass	Pass	32.5° Bevel

Chemical Analysis (wt%)															
Heat	Steelmaking Method	Test Type													
			C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B
			Heat	0.21	0.85	0.020	0.010	0.25	0.09	0.01	0.05	0.003	0.002	0.001	0.0003
BSM-1709	Blast Furnace; EAF; Ladle Refining Vacuum Degass; Fully Killed	Product	0.21	0.87	0.018	0.012	0.23	0.08	0.01	0.01	0.05	0.003	0.002	0.001	0.0003

Mechanical Properties									
Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Yield (Rt0.5) psi	Tensile (Rm) psi	Y/T (Rt0.5/Rm)	Elongation (A) %
BSM-1709	Heat	Ferrite & Pearlite	76 HRBW	Pass	Longitudinal; 38.1 mm x WT	43,000	71,500	0.60	43

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy J					% Shear					Lateral Expansion mm			
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	mm	mm	AVG
BSM-1709	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

### 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-45th Ed., ASTM/ASME A/SA106-2013 Grade B/C 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-2009 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.

• OD Tolerances as per API

Mill Test Certificate approved by:

*Paul Sowden*  
2014 MAR 24

Paul Sowden, T.T.  
Assistant QA Manager