



## Mill Test Certificate

Bri-Steel Manufacturing Inc.  
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Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1727 Product Size: 16S100 Production Date: Mar 26, 2014  
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR-000997  
Product Standards: ASME B36.10-2004, ASTM/ASME A/SA106-2013 Grade B NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

### Product Markings



NPS 16 SCH 100 1.031 INCHWT SMLS 2014/03 NDE  
HEAT BSM-1727 (PIPE # LENGTH MASS) 164.8lb/ft ASTM/ASME A/SA106 GR B A/SA53 GR B NACE MR0175/MR0103 MADE IN CANADA

### Product Details

Heat	Test Type	Product Size	Pieces	Length	Mass lb/ft	Geiger µR/hr	Res. Mag. Gauss	Visual Insp.	OD** WT	UT	UT ASTM E213	ET ASTM E309	HydroTest	End Condition
BSM-1727	Heat	NPS 16 SCH 100 1.031in. WT	1	DRL	164.8	<5	<10	Pass	Pass	Pass	Pass	Pass	*	Plain End

### Non-Destructive Testing

### Chemical Analysis (wt%)

Heat	Steelmaking Method	Test Type	C	Mn	P	S	Si	Cr	Cu	Mo	Ni	V	Ti	Nb	B	CE(IIW)	CE(CSA)
BSM-1727	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.18	0.88	0.013	0.003	0.28	0.07	0.06	0.00	0.02	0.003	0.002	0.001	0.0003	-	-
		Product	0.20	0.91	0.014	0.003	0.30	0.06	0.08	0.01	0.03	0.003	0.002	0.001	0.0003	0.38	0.38

### Mechanical Properties

Heat	Test Type	Microstructure	Hardness	Flattening Test	Tension Test 50mm GL	Yield (Rt0.5) psi	Tensile (Rm) psi	V/T (Rt0.5/Rm)	Elongation (A) %
BSM-1727	Heat	Ferrite & Pearlite	77 HRBW	Pass	Longitudinal: 19.05 mm x WT	46,100	69,000	0.67	46

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy J	AVG	% Shear	Lateral Expansion mm	mm	mm	AVG
BSM-1727	-	-	-	-	-	-	-	-	-	-

### 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/SA106-2013 Grade B 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.

\* Note that this product was hydrotested to 1000 psi for 5 seconds.

\*\*OD Tolerances as per API

Mill Test Certificate approved by:

2014 APR 07

Paul Sowden, T.T.  
Assistant QA Manager