



Mill Test Certificate

Bri-Steel Manufacturing Inc.
2125-64 Avenue, Edmonton, AB Canada T6P 1Z4
Tel: 001 (780) 469-6603
Fax: 001 (780) 469-6986
www.bri-steel.com

Product: Seamless Carbon Steel Pipe Product Heat Number: BSM-1776 Production Date: Apr 18, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001056
Product Standards: ASME B36.10-2004, ASTM/ASME A/SA106-2013 Grade B/C NDE, A/SA53-2012 Grade B Type S, NACE MR0175-2009 MR0103-2010

Product Markings
 NPS 22 XS 0.500 INCHWT SMLS 2014/04 NDE 1720PSI
HEAT BSM-1776 (PIPE # LENGTH MASS) 114.8lb/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	Geiger μ R/hr	Res. Mag. Gauss	Visual Insp.	OD	UT WT	UT ASTM E213	ET ASTM	HydroTest 1720 PSI/ 5 s	End Condition
BSM-1776	Heat	NPS 22 XS 0.500in. WT	4	DRL	114.8	<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
			0.20	0.92	0.014	0.007	0.26	0.05	0.08	0.01	0.05			
BSM-1776	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed	Heat	0.21	0.90	0.011	0.009	0.25	0.04	0.08	0.01	0.03	0.004	0.001	0.001
		Product												

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-1776	Heat	Ferrite & Pearlite	78 HRBW	Pass	Longitudinal; 38.1 mm x WT	50,500	70,500	0.72	45

Heat	Test	Standard	Impact Test Sample Details	Temp °C	Impact Energy					Lateral Expansion				
					J	J	J	AVG	%	%	%	mm	mm	mm
BSM-1776	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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/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 5L

Mill Test Certificate approved by:

2014 May 12

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