



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-1775 Production Date: Apr 17, 2014
Production Method: Hot Expansion Product Heat Treatment: As-rolled Certificate No.: MTR- 001059
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 1100PSI
HEAT BSM-1775 (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	Geliger $\mu R/hr$	Res. Mag. Gauss	Visual Insp.	OD	UT	UT	ET	HydroTest 1100 PSI/ 5 s	End Condition
BSM-1775	Heat	NPS 22 XS 0.500in. WT	2	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
			Heat	0.20	0.92	0.014	0.007	0.26	0.05	0.08	0.01	0.05		
			Product	0.21	0.91	0.011	0.008	0.26	0.04	0.08	0.01	0.03	0.004	0.001
BSM-1775	Blast Furnace; EAF; Ladle Refining; Vacuum Degass; Fully Killed													

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-1775	Heat	Ferrite & Pearlite	76 HRBW	Pass	Longitudinal; 38.1 mm x WT	45,600	70,500	0.65	45

Heat	Test Standard	Impact Test Sample Details	Temp °C	Impact Energy					% Shear					Lateral Expansion		
				J	J	J	AVG	%	%	%	AVG	mm	mm	mm	mm	AVG
				-	-	-	-	-	-	-	-	-	-	-	-	-
BSM-1775																

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